# National Approaches to Bycatch:

## The Development of Australian and United States Fisheries Conservation Policy

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A thesis submitted for the degree
of Doctor of Philosophy

The Australian National University

30 November 1999

## Declaration

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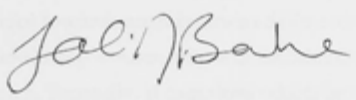

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# Abstract

This thesis examines the emergence and evolution of government conservation initiatives within the fisheries sector. In particular, it discusses the incidental capture of marine wildlife species, including marine turtles, cetaceans and sea birds. The study focuses upon Australia and the United States, with the particular aim to trace the path of U.S. experience, in order to determine what lessons can be learn for Australia.

In so doing, this thesis makes two significant contributions. Firstly, it considers the bycatch of charismatic species as a single study unit. It documents the development of policies towards such issues as driftnetting, tuna-dolphin purse-seine bycatch, the turtle-shrimp controversy and unilateral trade measures, and albatross longline bycatch. Secondly, it examines which factors have had the greatest influence on the creation of policies towards reducing the incidental capture of non-target species by commercial fishers, and the role each has played in different phases of the policy cycle.

A chronological approach is taken: tracing bycatch policy in the United States, beginning with its emergence onto the public and political agendas in the 1970s, through to its current day status as central fisheries management issue. Three stages in this period can be isolated. These are: the raising of the issue onto the agenda and preliminary attempts to form policies therefor, such as early consideration of tuna-dolphin and turtle-shrimp bycatch; secondly, was a phase dominated by the creation of a new set of mechanisms, with an emphasis on their application in the international arena (for example the LaJolla Agreement and the dolphin-safe label); followed, in the 1990s, by a period of consolidation and implementation of both new and existing policy items into actual actions, as seen internationally in the InterAmerican Convention for the Protection and Conservation of Sea Turtles and the Agreement on the International Dolphin Conservation Program, and domestically through the take reduction process and the rapid handling of seabird bycatch.

As well as tracing the hitherto undocumented development of bycatch policy, the thesis contributes to the construction of a marine policy theory; adopting an environmental policy analysis framework, with legislative and related activity as the basic unit of analysis. Four factors believed to have influenced the evolution of bycatch policies are identified. As no broadly accepted theoretical foundation for marine policy exists, these factors are derived from an examination of the fields of public policy, environmental policy theory, and marine management analysis. These factors — the role of science, international influences, domestic events and priorities, and NGO activities — are traced through the case-studies. Areas of particular interest, that have to date been neglected in much of the literature, such the influence of individuals

and the impact that industry groups upon fisheries conservation policy formation, are highlighted. Increased understanding of the influence of the various factors at each of the phases in the policy cycle, as seen by an examination of the situation in the United States, has relevance for other jurisdictions that have had less experience with bycatch policy development, particularly, given the many similarities between the two nations, for Australia.

# Acknowledgments

My PhD candidature was a transient time, with research that took me across the continent and the seas. Because of this, I find myself with a substantial list of folk I wish to thank for their friendship, support and assistance.

From my early thesis days in the west I would like to thank my fellow inhabitants of 'Siberia', the MUPSA mob, as well as Professor John Hooper at Murdoch University.

To the host of folk in the U.S. and Australia who graciously gave of their time and imparted their knowledge to me, I am most grateful. In particular, for your hospitality while I was in the U.S. that extended far beyond that which I had imagined, I wish to extend a special thanks to Thorn Smith, Lee Anderson, Porter Hoagland, Martin Hall and their families and colleagues.

Though not directly contributing to my thesis, to those I proudly call my friends, and who lent their support both here in Canberra and from the far corners of Australia, thank-you. A special thought goes to my Melbourne mob, and I thank-you for making the dark and empty days of early '98 more bearable.

I wish to offer my gratitude to my ANU supervisory panel. In particular, Steve Dovers for his insightful comments and willingness to freely chat with, and advise me on matters, no matter how peripheral my concerns were to my PhD work. And Nick Rayns, for being my link to the real world of fisheries management. To Glenn Withers and the Public Policy Program I extend my thanks for your financial support for my overseas fieldwork. Also to those who co-habitat with me downstairs at PPP, for providing me with a sense of place (and with fresh brewed coffee) and bring levity to most every day, thank-you.

I wish also to thank several people who have not been formally associated with my thesis work, but who have read and commented on sections thereof. To Gene Buck, who read all of my American case-study chapters, and whose input made this a more accurate account of bycatch in the U.S.. And others who have assisted more recently in reading and advising on various parts of my research - Jack Frazier, Sonia Palmieri and Marcus Haward - I also offer my thanks.

And to Nathe, for inducting me into the world of research, and for introducing me to the albatross, I will always be grateful. For your continuing care and companionship, thank-you.

And finally to my parent, John and Wendy, and my family. For all you have taught me, and for your unwavering support and encouragement, thank you all.

# Author publications

Parts of this work have been published or presented in a number of journals and conferences as shown below —

Bache, S., "Federal Marine Wildlife Initiatives" (1997) 4 *Australian Environmental Law News* 6.

Bache, S., "International Bycatch Policy: Impacts and Lessons for the South-East Asian Nations", paper presented at *2nd ASEAN Symposium and Workshop on Sea Turtle Biology and Conservation: Beyond the Beach*, Kota Kinabalu, 15-17 July 1999.

Bache, S. and Evans, N., "Dolphin, Albatross and Commercial Fishing: Australia's Responses to an Unpalatable Mix" (1999) 23 *Marine Policy* 259.[^]

Evans, N. and Bache, S., "Fisheries and Endangered Species: Jurisdiction and the Management of Threatening Activities" (1997) 14 *Environmental and Planning Law Journal* 468.*

Moore, S. and Bache, S., "Spatial Scale and Environmental Justice in Australian Environmental Decision Making: Does it Matter and to Whom?" (1997) *International Conference on Environmental Justice*, 1-3 October 1997, Melbourne University.#

^ Bache was responsible for the all analysis and the primary research and writing; Evans assisted in data collection and reviewing drafts and editing.

* Bache undertook the principle research, interpretation and writing tasks; Evans was responsible for descriptions of jurisdictional arrangements in Australian resource regimes, and assisting with writing and analysis.

\# Bache was responsible for descriptions of national and international actions and for assisting with analysis and writing; Moore undertook the principle research, writing and interpretation tasks.

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# Figures & Tables

# Acronyms

| | |
|---|---|
| AFMA | Australian Fisheries Management Authority |
| AFZ | Australian Fishing Zone |
| ASEAN | Association of South East Asian Nations |
| ATA | American Tunaboat Association |
| CCAMLR | Convention for the Conservation of Antarctic Marine Living Resources |
| CEE/CMC | Center for Environmental Education / Center for Marine Conservation |
| CCSBT | Convention for the Conservation of Southern Bluefin Tuna |
| CITES | Convention on International Trade in Endangered Species of Wild Fauna and Flora |
| CIT | United States Court of International Trade |
| COFI | Committee on Fisheries (FAO) |
| CPUE | catch-per-unit-effort |
| DML | dolphin mortality limit |
| DPA | dugong protection area |
| DPCIA | Dolphin Protection Consumer Information Act |
| DWFN | distant water fishing nation |
| EA | Environment Australia |
| EC | European Community |
| EEZ | exclusive economic zone |
| EII | Earth Island Institute |
| EIS | environmental impact statement |
| ESA | Endangered Species Act (USA) |
| ESD | ecologically sustainable development |
| ESPA | Endangered Species Protection Act (Aust) |
| ESSS | Endangered Species Scientific Subcommittee |
| ETP | Eastern Tropical Pacific Ocean |
| FAO | Food and Agriculture Organization (of the United Nations) |
| FCMA | Magnuson-Stevens Fisheries and Conservation Management Act |
| FCZ | Fishery Conservation Zone |
| FFA | Forum Fisheries Agency |
| FMC | fisheries management council |
| FMP | fisheries management plan |
| FWS | Fish and Wildlife Service |
| GATT | General Agreement on Tariffs and Trade |
| GBR | Great Barrier Reef |
| HSI | Humane Society International |
| HSUS | Humane Society of the United States |
| IAC | InterAmerican Convention for the Protection and Conservation of Sea Turtles |
| IATTC | Inter-American Tropical Tuna Commission |
| IDCA | International Dolphin Conservation Act |
| IDCPA | International Dolphin Conservation Program Act |
| IDCP | International Dolphin Conservation Program |
| INPFC | International North Pacific Fisheries Commission |
| IUCN | International Union for the Conservation of Nature |
| IWC | International Whaling Commission |
| KTP | key threatening process |
| LOSC | United Nations Convention on the Law of the Sea |
| MBTA | Migratory Bird Treaty Act |

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|---|---|
| MMC | Marine Mammal Commission |
| MMPA | Marine Mammal Protection Act |
| MOU | memorandum of understanding |
| NAFTA | North American Free Trade Agreement |
| NAS | National Academy of Sciences |
| NEPA | National Environmental Policy Act |
| NGO | non-governmental organisation |
| nm | nautical mile |
| NMFS | National Marine Fisheries Service |
| NOAA | National Oceanic and Atmospheric Administration |
| NPF | Northern Prawn Fishery |
| NPFC | North Pacific Fisheries Convention |
| NPLA | North Pacific Longline Association |
| OSP | optimal sustainable population level |
| PBR | potential biological removal rate |
| SGES | Sea Grant Extension Service |
| SPF | South Pacific Forum |
| STRP | Sea Turtle Restoration Project |
| TAP | threat abatement plan |
| TED | turtle exclusion device OR trawl efficiency device |
| TR | take reduction |
| TRP | take reduction plans |
| TRT | take reduction teams |
| UN | United Nations |
| UNCED | United Nations Conference on Environment and Development |
| UNGA | United Nations General Assembly |
| WTO | World Trade Organisation |
| WWF | World Wide Fund for Nature |
| ZMRG | zero mortality rate goal |

# Introduction

Marine mammals, including whales, porpoises, dolphins, seals, sea lions, sirenians, sea otters and polar bears, have had a sombre history. No other group of large mammals has had so many of its members driven to the brink of extinction.[1] Some of these species were also the first focus of international conservation agreements: witness the 1911 Treaty for the Preservation and Protection of Fur Seals, and the 1946 Convention for the Regulation of Whaling.[2] These agreements were a response to the threat of direct harvesting and, like most intergovernmental management efforts, protective status for cetaceans and pinnipedia was provided only after the species had been commercially depleted. Adding marine turtles and seabirds to the list, the survival of this group of marine wildlife species is now under threat. Although direct harvesting continues to cause significant mortality, attention has turned towards other impacts, one of which is capture incidental to commercial fishing operations (bycatch).

This thesis traces the hitherto undocumented development of bycatch policy in the United States of America (U.S.), beginning with its emergence onto the public and political agendas in the 1970s, through to its current status as a central fisheries management issue. In Australia too, bycatch now commands significant policy attention. It does not, however, have the longevity of consideration that is witnessed in the U.S.. Australia's first foray into bycatch policy was its assertive 1986 ban on driftnetting in northern waters, subsequent to which, interest in the issue slumped. Notwithstanding this historic lack of attention, Australia now seems to have elevated bycatch to a central policy concern. The intent of this thesis is to provide an examination of the U.S. situation and handling of bycatch policy development to determine what can be learned for Australia. To so do, the thesis adopts an environmental policy analysis framework, with legislative and related activity as the basic unit of analysis. Four factors believed to have influenced the evolution of bycatch policies are identified. As no broadly accepted theoretical foundation for marine policy exists, these factors are derived from an examination of the fields of public policy, environmental policy theory, and marine management analysis. These factors — the role of science, international influences, domestic events and priorities, and environmental groups' activities — are traced through the two case studies. In the final

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1 Norris, K., "Marine Mammals and Man", in Broker, H. (ed), *Wildlife and America* (Government Printing Office, Washington, 1978) pp.49-62.

2 Convention for the Preservation and Protection of Fur Seals, T.S. 504 (1911); and The International Convention for the Regulation of Whaling, 161 U.N.T.S. 72 (1948).

analysis, the role of each of these factors upon the development of bycatch policy is discussed, and their potential as the basis for a marine policy theory is contemplated.

Bycatch was of little issue prior to the 1960s. Civilian marine efforts — with the exception of whaling — lacked technical expertise, and were restricted to relatively near shore waters. But with advances in marine science and technology, came improved fishing capabilities and increased access to the high seas.[3] This, coupled with an increased demand for ocean products, saw a dramatic rise in the number and scale of fishing operations, and with it, an increase in the incidental mortality of non-target species. Although this includes species other than those defined as marine wildlife, due to the difference in policy solutions, and the legislative and management tools adopted, this thesis considers only the bycatch of conservation significant marine wildlife species, at the expense of any attention to non-target fish species.[4]

Kellert has identified nine characteristics responsible for the historic depletion of marine mammals.[5] These factors can be similarly applied to the other species identified under the heading of marine wildlife for the purposes of this thesis, notwithstanding that not all have been subject to large scale commercial harvesting. The factors are: the common property nature of most marine mammals; the migratory habits of many oceanic species; the vulnerability of many marine mammals as targets of exploitation; the presumed inexhaustibility of marine species; widespread biological ignorance; the large commercial benefits involved with harvesting many species or associated fish species; the difficulty of developing effective international marine mammal conservation agreements; adverse impacts of human activities upon marine habitats; and the historic lack of a sympathetic attitude towards marine mammals.

Through the 1970s and 1980s several of these characteristics altered. The 1970s saw the enclosure of great expanses of ocean space that had been considered common property under the Grotian principle of the freedom of the high seas. This rising trend of ocean enclosure had considerable impact upon the use and management of ocean resources. Open access to common property resources and the resultant over-exploitation, a concept popularised by Hardin,[6] were reduced. Necessarily, the area of

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3 Laist, D. and Epting, J., "Marine Policy Evolution: A Reference Guide for Coastal Managers" (1980) 7 *Coastal Zone Management Journal* 71.

4 The separate consideration of marine wildlife to fish species derives from their different life cycles and the public image and commercial value they hold. Due to these differences, both the political response and available management and policy tools vary between these groups of marine species. For further discussion see *Chapter One*, footnotes 16 to 18 and accompanying text.

5 Kellert, S., "Marine Mammals, Endangered Species, and Intergovernmental Relations", in Silva, M. (ed), *Ocean Resources and U.S. Intergovernmental Relations in the 1980s* (Westview Press, Boulder, 1986) pp.131-154.

6 Hardin, G., "The Tragedy of the Commons" (1968) 163 *Science* 1243.

ocean that fell under unilateral management increased. Coinciding with this, came an increased impetus to manage these areas sustainably.[7] This was accompanied by increased international cooperation for those species in the ocean commons. Two other of Kellert's factors — the presumed inexhaustibility and the widespread biological ignorance — dissolved with the observed decline in and amongst marine mammal populations. Efforts to gain an increased understanding of the habits and fecundity of many marine species ensued. With this, both the finite nature of marine wildlife, and their vulnerability to over exploitation and habitat destruction, became apparent.

In western nations, the emergence of sophisticated tactical lobbying and the increased provision of information to the community by environmentalists, combined to reduce the acceptability of the harvesting of marine mammals. As the direct exploitation of marine mammals became unpalatable to the public it was commonly either outlawed, or the market for the product declined such that operations were no longer commercially viable. Notwithstanding these developments, until recently little change has been discernible in commercial operations where marine wildlife is caught incidental to the target (fish) species. These operations have continued and the commercial incentive has remained high regardless of increased biological understanding, and altered community perceptions, with regard to marine wildlife.

Indirect impacts on marine wildlife from commercial fishing operations may include reduced sources of food, alterations in predator-prey balances, habitat degradation, and bycatch. Bycatch policy development has only in the last few years progressed from a target species (e.g. tuna) and method (e.g. purse-seining) specific approach, to a policy area in its own right. In this period of rapid change in the way bycatch is viewed, it has been elevated to the status of one of the main marine environmental issues of the 1990s.[8] Reflecting the newness of 'whole of bycatch' policy considerations, little academic work has been done in the bycatch issue area; this thesis rectifies this deficiency.

## Case-Study Selection

The validity of selecting the United States of America as the case-study for an examination of the development of bycatch policy, as it relates to Australia, lies in the richness of U.S. experience and the essential similarities of these two countries and

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7 Kellert (1986) *op. cit.* n5. This relationship between ocean enclosure and greater littoral State responsibility is also discussed with respect to marine reserve declarations by Bohnsack. See Bohnsack, J., "Marine Reserves, Zoning, and the Future of Fisheries Management" (1996) 21 *Fisheries* 14.

8 Tillman, M., "Bycatch: The Issue of the 90's", in *Proceedings of an International Conference on Shrimp Bycatch* (Southeastern Fisheries Association, Tallahassee, Florida, 1992) pp.13-18.

their approach to marine affairs. The federal government of each nation has played a key role in the evolution of international policy aimed at the reduction of incidental wildlife capture, and each has, in 1997, initiated the development of a bycatch policy aimed at comprehensively addressing the problem at a national level. Further, industry and government in both the U.S. and Australia have given considerable support to the research and development of bycatch reduction technology.

Culturally similar in their affinity to marine wildlife species and cultural linkage with the ocean, throughout the writings of U.S. and Australian marine policy and law, authors have scattered references as to the importance of the coastal zone in the psyche of each nation.[9] Moreover, with regard to their marine environments the two nations are geographically and biologically similar: each has an expansive ocean territory, and high value fishery resources within their 200nm zones of jurisdiction.[10] Moreover, to govern their marine resources, both nations have established joint management structures involving their sub-national states and other key interests, be this on a regional or species specific basis.[11]

The similarities between Australia and the U.S. extend also to their federal system of governance. Federalism has been described as a "system of rules for the division of public policy responsibilities among a number of autonomous government agencies".[12] In both nations the authority to govern or make laws is divided between state and the federal governments, and enumerated under their constitutions. Although there are marked differences in the Australian and the U.S. styles of federalism, these nations share similar jurisdictional arrangements regarding the state/federal divisions of powers for fisheries off their coasts, and these have tended to be heavily dominated by the interests of commercial fishers.

Born of the federal system are other likenesses. Such an arrangement offers opportunity for political participation by the citizenry, due to the existence of multiple arenas for public involvement. Democratic systems of elected government, and the high

9 For example see Cicin-Sain, B., "A National Ocean Governance Strategy for the United States is Needed Now" (1994) 22 *Coastal Management* 171; and Davis, B., "Contemporary Ocean and Coastal Management Issues in Australia and New Zealand: An Overview" (1996) 33 *Ocean and Coastal Management* 5.

10 The monetary value of Australia's fisheries is considerable, notwithstanding that its waters are comparatively poor in terms of production by weight.

11 The term "states" is used to denote the internal units that comprise the federation of the U.S. or Australia. Unless otherwise stated throughout this thesis the term "states" in the Australian context refers to both the states and the Northern Territory. Use of upper-case "States" refers to nation States as recognised by international law.

12 Anton, T., "Models of American Intergovernmental Relations" in Silva, M., (ed.) *Ocean Resources and U.S. Intergovernmental Relations in the 1980s* (Westview Press, Colorado, 1986) pp.1-36 at 1.

degree of public access to elected representatives' further support this participatory basis of federalism in both the U.S. and Australia.[13] Further, independent judicial redress is available to aggrieved parties. This option is more often pursued by groups or individuals in the U.S. though, as high costs and strict standing laws in Australia make access to the courts more prohibitive.[14]

Finally, with respect to their international status, Australia and the U.S. are both prominent English-speaking, western nations. Although the U.S. is now the only recognised superpower, Australia has traditionally assumed a leadership role as a regional hegemon in the South Pacific, and wields considerable power in the Southern Ocean as a claimant nation under the Antarctic Treaty System.[15] This position of leadership, shared by both nations at least on a regional level, allows them to propose and sustain various economic and diplomatic ideas outside of their own boundaries. Though sharing many similarities, this thesis restricts its conclusion to those lessons that can be learnt from the U.S. situation. The detailed attention paid to the U.S. vis-a-vis Australia is a reflection of the quantity of empirical evidence on the U.S. and the relatively scant data available in Australia, and the desire to utilise this U.S. data so as to develop a hitherto undocumented record of U.S. bycatch policy development.

## Thesis Structure

Before embarking on the case studies, some background to the bycatch problem and a theoretical basis for the analysis is provided. Chapter One justifies the boundaries of the study in terms of the species considered under the heading of marine wildlife, and clarifies the concept of bycatch; both defining and explaining the term, and describing the main fishing methods that result in the bycatch of marine wildlife. Attention to Australian bycatch policy developments is also provided, and the nation's approach to bycatch policy creation for dolphin, albatross, sea turtles and dugong outlined.

The second chapter discusses the theory and method. It examines the four factors that influence fisheries bycatch policy (the role of science, international influences, domestic actors, and environmental NGOs) and overviews the policy cycle as a framework for examining the role of each of these factors in policy development.

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13 *Ibid.*

14 McDonald, J. and Münchenberg, S., "Public Interest Environmental Litigation - Chipping Away at Procedural Obstacles" (1995) 12 *Environmental and Planning Law Journal* 140; Münchenberg, S., "Judicial Review and the Commonwealth Environment Protection (Impact of Proposals) Act 1974" (1994) 11 *Environmental and Planning Law Journal* 461; and Preston, B., "Laches in Public Interest Litigation" (1986) 3 *Environmental and Planning Law Journal* 224.

15 Bache, S. and Evans, N., "Dolphin, Albatross and Commercial Fishing: Australia's Responses to an Unpalatable Mix" (1999) 23 *Marine Policy* 259.

Chapters Three through Five comprise the U.S. case-study. They document the progression from the species and fishing method specific focus, to the development of the recent U.S. bycatch policy. Observations of the nature and evolution of policies are based upon the attention and national priority given to the issue, as indicated by the passage of legislation, and actions and statements of federal officials, members of Congress, academics, and other policy actors. Sources of information include:

- transcripts and statements issued with respect to the passage of legislation;
- executive branch and upper level bureaucracy responses to new legislation, as indicated by priorities for implementation, organisational changes made to accommodate such, and the calibre of leadership witnessed;
- major new initiatives by the government evidenced by the implementation of reviews, release of new policies, or executive orders by the president; and
- significant political studies, speeches and important reports.[16]

The three U.S. case-study chapters are arranged in broad but distinctive periods, unique to its ocean policy development phases. Several authors have attempted to classify the periods of marine activities as dominated and demarcated by phases in the nation's political landscape.[17] The arrangement in this thesis draws upon these in determining three phases. These are: 1970-1979 the formative era of marine and environmental policy; 1980-1992 the Reagan/Bush years of government characterised by policy stagnation and judicial challenges; and 1993 forward, which has been a period dominated by the consolidation of marine bycatch policies.

By adopting a chronological approach the analysis is able to consider not just the problems or solutions but the process undergone in reaching an endpoint policy position.[18] Throughout, the descriptive case studies are reexamined in terms of the four factors identified in Chapter Two. In the concluding chapter, lessons of the

16 Knecht, R., Cicin-Sain, B. and Archer, J., "National Oceans Policy: A Window of Opportunity" (1988) 19 *Ocean Development and International Law* 113.

17 A range of authors have used different boundaries and nomenclature to identify different phases of policy development in the oceans arena. Written mainly in the late 1980s towards the end of Reagan's term, they universally classified his phase of Presidency as negative for ocean's policy development. For example King delineates a formative decade (1959-1969), a stewardship decade (1970-1980), and a decade of decline (1980-1990), with 1990 onwards being the decade to come. Curlin argues that the distinctive periods have been from a phase of innovative oceans policy (1969-1976), through a cognition phase (1977-1982) to a phase of degradation (1983-1988). Finally Knecht, Cicin-Sain and Archer put forward a model of the phases of development of ocean policy commencing with ocean science (1960-1969), then a phase dominated by environmental concerns (1969-1973), followed by an energy crisis (1973-1980) and culminating with a period of retrenchments (1980s). See Curlin, J., "Federalism and Ocean Policy - a Commentary" (1988) 20 *Marine Technology Society Journal* 3; King, L. and Jennings, F., "The Executive and the Oceans: Three Decades of United States Marine Policy" (1990) 22 *Marine Technology Society Journal* 17; and Knecht et al. (1988) *op. cit.* n16.

18 Walker, K., *The Political Economy of Environmental Policy: An Australian Introduction* (New South Wales University Press, Kensington, 1994).

combination and recombination of various influences upon the promotion or retardation of bycatch policy development, since the issue first emerged into the decision making arena in the early 1970s, is assessed. In this way, an insight into the pitfalls or omissions regarding Australian policy development is provided. As stated, the utility of these factors as the basis for a marine policy theory, within a policy cycle model, is also contemplated. Finally, current trends and direction are considered.

## Theoretical and Analytical Orientation

Policy analysis has been defined as the "description and explanation of the causes and consequences of government activity".[19] The policy area examined here is ultimately a government responsibility although other players are also involved. Providing incentives for, or compelling the use of, bycatch exclusion devices or, (where such are not available) prohibiting operations, is a regulatory duty commonly the responsibility of a national government. As such, this thesis focuses on the national perspectives and actions of the United States of America and Australian governments.

The theoretical basis for the analytical component of this thesis is provided in Chapter Two. This is drawn from a range of environmental policy perspectives and public policy theories, as well as marine focused writings. Literature combining these fields of analysis — notwithstanding the longevity and multi-disciplinary objective of policy science[20]— is scarce, with much environmental policy having evolved quite separately to other public policy theories. This thesis's methodology chapter integrates aspects from all three disciplines to distil therefrom four factors likely to have repeatedly influenced the development of bycatch policies. It also draws attention to the differences inherent in the marine context, as opposed to the terrestrial environmental experience, upon which the bulk of environmental policy theory is based.

The four factors that may be used to explain the nature and timing of various stages in the emergence of each nation's bycatch policy are, as previously mentioned, the role of science, the impact of non-governmental organisations, domestic political constraints and motivations, and the impact of international agreements and the range and level of interest in the issue (its internationality).[21] The purpose of this second chapter is not, however, to provide a critical analysis or to test the theories of each of the literatures that promote the importance of these factors in policy formation. Rather it is to

19 Dye, T., *Understanding Public Policy (5 Ed)* (Englewood Cliffs, New Jersey, 1984).

20 Lasswell, H., "The Policy Orientation", in Lerner D. and Lasswell H., (ed), *The Policy Sciences: Recent Developments in Scope and Method* (Stanford University Press, Stanford, 1951) pp.3-15.

21 Bache and Evans (1999) *op. cit.* n15.

identify those dimensions of each of these that may provide some insight into the process of marine policy creation, and to allow the application of their explanatory tools to the issue of bycatch in the U.S. and Australia.[22]

The investigation of the four identified factors is conducted within a policy cycle model, which allows for consideration of a complex policy in a number of more accessible stages. These stages of the policy cycle progress from that of agenda raising, where the issue is first introduced for policy consideration; through to the second phase of policy formation where an issue is transformed in to an actual policy; and finally to the implementation stage of the cycle. An issue may be discarded at any stage throughout this cycle, resulting in no policy being formed though the rejection of an issue is a policy decision in itself. The actors and influences differ at each of these phases in policy development: NGOs and science often playing a significant role in the agenda raising phase; domestic players and events expected to have a dominant role in the second phase along with international influences; and finally NGOs and domestic players dominating in the third implementation stage. These roles have of course evolved over time, and the development and various influences of the four factors are traced through the U.S. case-study chapters. The use of the policy cycle model also "aids in theory building by allowing numerous case studies and comparative studies of different stages to be undertaken."[23] It is hence intended that, in concluding, the four factors will provide complementary hypotheses that form the basis of a (uniquely) marine policy theory.

This thesis and its methodological framework provide several major contributions to the current state of knowledge on both bycatch and on marine policy. Nowhere previously has such an consistent and detailed review of the development of U.S. bycatch policy been undertaken. And hence the treatment given to this issue area in this thesis is itself a significant contribution to knowledge. This thesis makes a second contribution. The Second Chapter distills from a range of fields a framework of analysis. In combining public policy, environmental policy, and marine management disciplines, and applying this framework to the fisheries bycatch issue area, this thesis makes a significant advance towards the goal of creating of a marine policy theory. The framework of analysis is, through the detailed U.S. case study, proven to be valid.

22 A similar approach is taken in Elliott, L., *International Environmental Politics: Protecting the Antarctic* (MacMillan Press, London, 1994).

23 Howlett, M. and Ramesh, M., *Studying Public Policy: Policy Cycles and Policy Subsystems* (Oxford University Press, Oxford, 1995) at 12.

# Chapter One - **Bycatch Explained**

## 1.1 Defining the Problem — the incidental capture of marine wildlife

Marine wildlife and fisheries interact in ways that can adversely affect both. Marine mammals, seabirds or turtles may become entangled in fishing gear and be killed or injured. Alternatively, marine wildlife may compete with fishers for the same resource or may cause damage to gear and catch. This thesis considers only the former of these two interactions, that is bycatch.

The term bycatch is used to describe the unintended capture of both non-target fish and non-commercially viable species in fishing operations. That is, those species and individuals towards which there is no directed effort.[1] Most marine wildlife species are air-breathing, and consequently a large portion of the individuals that are caught as bycatch die from asphyxiation before being sighted and released. Considerable debate exists as to what percentage of live species that are released after incidental capture actually survive.[2] Individuals caught and returned to the oceans have not traditionally been included in bycatch figures, although they may fall within the scope of some more recent definitions, which include phrases such as "unobserved mortalities".[3]

These progressive and broader definitions are also likely to encompass ghost fishing as a form of bycatch. Ghost fishing refers to the entanglement and ultimate death of marine species in discarded or lost fishing gear including driftnets, trawlnets, gillnets, traps, ropes and monofilament fishing line.[4] This form of marine debris is particularly

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1 Alverson, D., Freeberg, M., Pope, J. and Murawski, S., *A Global Assessment of Fisheries Bycatch and Discards* (FAO, Rome, 1994).

2 For example in regard to dolphins' purse-seine bycatch mortality rates see, Kubasek, N., Browne, N.M., Young, M. and Hiers, W., "Protecting Marine Mammals: Time for a New Approach" (1995) 13 *Journal of Environmental Law* 1; and Curry, B., *Stress in Mammals: The Potential Influence of Fishery-Induced Stress on Dolphins in the Eastern Tropical Pacific Ocean*, NOAA Technical Memorandum No.260 (NMFS, Southwest Fisheries Science Center, LaJolla, March 1999). With regard to sea turtle longline mortality rates see Aguilar, R., Mas, J. and Pastor, X., "Impact of Spanish Swordfish Longline Fisheries on the Loggerhead Sea Turtle *Caretta caretta* Population in the Western Mediterranean", paper presented at *Proceedings of the Twelfth Annual Workshop on Sea Turtle Biology and Conservation* (NMFS, Georgia, 1992) pp.1-9; and Balaz, G. and Pooley, S., *Research Plan to Assess Marine Turtle Hooking Mortality: Results of an Expert Workshop Held in Honolulu, Hawaii, November 16-18, 1993* (Southwest Fisheries Science Center, NMFS, 1994).

3 National Marine Fisheries Service, *Managing the Nation's Bycatch: Priorities, Programs and Actions for the National Marine Fisheries Service* (NMFS, Washington DC, 1998); and Ministerial Council on Forestry, Fisheries and Aquaculture, *National Policy on Fisheries Bycatch* (AFFA, Canberra, 1999) (hereafter "National Bycatch Policy").

4 Ghost fishing occurs where lost and discarded marine fishing debris continues to fish, capturing both target and non-target marine species. Of most concern are the impacts from gill or driftnets and demersal trawl nets. One study has estimated that the amount of lost and discarded fishing gear amounts to 135,000 tonnes per annum. Merelle, T., "Accumulation of Plastic Litter on Beaches of Amchitlea

*continued over page*

deadly due to its transparent nature, as well as longevity and buoyancy.[5] As an indication of the number of individuals believed to be taken in this manner, it is estimated that plastic pollution (from both fishing vessels and ships) causes the fatality of over 1,000,000 birds and over 100,000 marine mammals and sea turtles each year.[6] These figures, as well as those of the number of individuals that are eaten by predators before the equipment is hauled in, are difficult to quantify and are seldom incorporated into incidental mortality estimates.[7] Consequent of these uncertainties, bycatch figures have a significant margin of error, and are believed to be routinely underestimated.[8]

The problem of uncontrolled and escalating bycatch, as with overfishing, emerged largely due to the rapid development of fishing technologies,[9] the escalation in commercial fisheries, and the lack of a parallel advance in regulation to prevent adverse environmental side-effects.[10] While not the target of the nets, longlines and

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Island, Alaska" (1986) 3 *Marine Environmental Research* 171. See also Jones, M., *Fishing Debris in the Australian Marine Environment* (Bureau of Resource Sciences, Canberra, 1994); Lang, G., "Plastics, The Marine Menace: Causes and Cures" (1990) 5 *Journal of Land Use and Environmental Law* 729; and Joyner, J. and Frew, S., "Plastic Pollution in the Marine Environment" (1991) 22 *Ocean Development and International Law* 33.

5 The non-biodegradable nature and reduced weight of construction materials means that lost or discarded nets may continue to ghost fish for years, until they are washed ashore, or the weight of the species caught therein causes the nets to sink to the ocean floor. See Center for Environmental Education, *Plastics in the Ocean: More than a Litter Problem* (CEE, Washington DC, 1987); Fower, C., "Marine Debris and Northern Fur Seals: A Case Study" (1987) 18 *Marine Pollution Bulletin* 334; Laist, D., "Overview of the Biological Effects of Lost and Discarded Plastic Debris in the Marine Environment" (1987) 12 *Marine Pollution Bulletin* 319; Mackey, D., "To Help Hooked Sea Birds" (1982) May-June *Oceans* 24; and Shaughnessy, P., "Entanglement of Cape Fur Seals with Man-Made Objects" (1980) 11 *Marine Pollution Bulletin* 326.

6 Lang (1990) *op. cit.* n4.

7 In Queensland, Australia, a study was undertaken comparing the utility and bycatch of shark-nets with that of baited lines for protecting beaches from sharks. On several occasions dugong and dolphin were found in the stomachs of sharks captured in nets. This led the author to conclude that a significant proportion of these sharks had been lured by previously meshed non-target species, and moreover, that the recorded level of bycatch of non-target species was an underestimation. Paterson, R., "Effects of Long-Term Anti-shark Measures on Target and Non-target Species in Queensland, Australia" (1990) 52 *Biological Conservation* 147.

8 Threat Abatement Planning Team, *Plan for the Incidental Catch (or Bycatch) of Seabirds During Oceanic Longlining Operations* (Environment Australia, Canberra, 1998).

9 Dayton, P., Thrush, S., Agardy, M. and Hofman, R., "Environmental Effects of Fishing" (1995) 5 *Aquatic Conservation: Marine and Freshwater Ecosystems* 205. Traditionally fishers used nets constructed of natural materials — less durable, and more expensive. Retrieval was by hand, thus the size of the net was limited by its laden weight and the manual power needed to successfully reclaim it. This situation altered with the combined technological developments of the mechanised winch, and the replacement of natural fibers with nets made of synthetic fibers such as monofilament nylon. Moreover, these nets made of light translucent plastics are difficult both to see, and to detect with sonar. Once caught, large species, that may have once otherwise escaped from weaker and less durable materials, became permanently entangled and drown in fishing nets.

10 Krock, H-J., "The Role of Technology in Ocean Resources Development", in Mensah, T. (ed), *Ocean Governance: Strategies and Approaches for the 21st Century* (Law of the Sea Institute, University of Hawaii, Honolulu, 1996) pp.150-155.

trawls, marine reptiles, mammals, and seabirds were "hauled up, killed and thrown overboard in fisheries around the world in staggering quantities."[11]

Arguments as to why bycatch is an issue of concern can be broken down into three categories.[12] First, expanding on the principle of maintenance of ecosystem integrity and marine biodiversity, there are ecological arguments such as avoiding the extinction of species, rebuilding depleted populations, and retaining the basic structure and function of an ecosystem. In terms of the principle of integrated oceans planning and management for multiple ocean use, there are also sociological arguments which include reducing 'wastage' in fisheries, regardless of whether the species are charismatic or not. Finally, as part of encouraging the development of competitive industries, there are economic arguments based upon the desire to keep fisheries open. These include minimised negative publicity, and meeting operational and technical needs such as minimizing the inconvenience or danger associated with bycatch. In addition the redressing of the bycatch issue will result in the incorporation or amelioration of, in economic terms, an externality of fishing.[13]

This thesis is concerned with the bycatch of marine wildlife, oft referred to as 'conservation significant species'. This terminology is somewhat misleading. Although derived from the endangered status of some marine wildlife, this phrase is commonly also applied to species which are in abundance but have emotive significance to western nations. For example, although many seabirds, sea turtles and manatees afforded the title conservation significant species are critically endangered, also grouped hereunder are healthy populations of some dolphin, sea lion and seals. Conversely threatened fish species are rarely grouped under the heading of conservation significant, hence implying that they are not in need of preservation measures, though their populations may be depleted or even endangered in their natural habitat.[14] Notwithstanding the apparent scientific illogic of this grouping, the

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11 Iudicello, S. and Lytle, M., "Marine Biodiversity and International Law: Instruments and Institutions that can be used to Conserve Marine Biological Diversity Internationally" (1994) 8 *Tulane Environmental Law Journal* 123 at 128.

12 Hall, M., "On Bycatches" (1996) 6 *Reviews in Fish Biology and Fisheries* 319; Harris, A. and Ward, P., *Non-Target Species in Australia's Commonwealth Fisheries - A Critical Review* (Bureau of Rural Sciences, Canberra, 1999); and Metzner, R., "Bycatch: Do We Care?" paper presented at *ABARE Outlook '99* (ABARE, Canberra, 1999) in press.

13 Hoagland, P., Jin, D. and Lee, P., *Market-Based Incentives to Reduce Fisheries Bycatch* (NMFS/WHOI, Woods Hole, 1996).

14 There is some evidence that this situation is changing. For example, in Australia the Southern Bluefin Tuna has been nominated for listing as threatened under Australia's primary endangered species legislation, and is being considered for nomination under CITES. Per comm. Dr Nathan Evans, Senior Policy Officer, Fisheries and Aquaculture Branch, Forestry, Fisheries and Agriculture - Australian, Canberra, 12 May 1999.

consideration of marine wildlife in bycatch policy formation and management has been handled differently to that of fish species.

The reasons for the fish/non-fish classification system are several, and vary slightly depending upon whether the viewpoint is held by professionals or the public. The emotive connection the wider community has with marine wildlife is rarely extended to fish species.[15] This can be assumed to be, by and large, a reaction to the appearance and behaviour of fish and, to human conditioning to accept these species as a food-source.[16] Another aspect contributing to the divided perception between fish and marine wildlife, is that ownership rights to fish are perceived to accrue to commercial fishers (largely through the allocation of catch quotas and access rights). Thus in the public psyche, fish are not afforded the same degree common property status as marine wildlife, and the same level of community interest and ownership of the problem that results from the overexploitation of marine wildlife, is seldom achieved in relation to fish species. Finally, is the influence of the different paradigms of conservation and resource agencies: the former tending to take a protective role, and the latter a sustainable use approach to fisheries and associated marine species.

Species so grouped as marine wildlife do, however, have one notable, tenable scientific difference to most fish species.[17] Their biological longevity and low fecundity,[18] results in a particular susceptibility to bycatch.[19] Seabirds and marine turtles and mammals suffer low levels of recruitment: all either bear young infrequently and in small numbers, or else have a high infant mortality rate. For example dugongs do not calve until at least ten years of age and only a single offspring is born, after which there is a

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15 Dayton et al. (1995) *op. cit.* n9.

16 Several non-western societies consider marine wildlife (such as turtles and dugong) to be another source of food, and they view these species accordingly as wild, harvestable species, akin to fish.

17 There are fish species which are an exception to this general rule. For example the Orange Roughy's life characteristics mimic that of a turtle more than reflecting its status as a fish. It is believed to have a life-span of well over one hundred years and does not begin breeding until an age of 20-30. Fecundity is low, rarely exceeding 90,000 eggs per female. Tilzey, R. and Chesson, J., "South East Fishery - Quota Species", in Caton, A., McLoughlin, K. and Staples, D. (ed.), *Fishery Status Reports 1997: Resource Assessments of Australian Commonwealth Fisheries* (Bureau of Resource Sciences, Canberra, 1997) pp.41-58.

18 Most marine species are r-strategists. These are species with a short lifespan but which produce many offspring. Species characterised as large-bodied, long-lived, slow-breeding, and producing fewer offspring with greater parental investment are classified as K-strategists. Marine wildlife, including marine mammals, seabirds and turtles are K-strategists, and hence vulnerable to exploitation induced extinction (the other group of marine species to be K-strategists are elasmobranchs, and more recently these too have begun to receive considerable conservation attention). See Vermeij, G., "Saving the Sea: What We Know and What We Need to Know" (1989) 3 *Conservation Biology* 240.

19 Crouse, D., "The Consequences of Delayed Maturity in a Human-Dominated World" (1999) 23 *American Fisheries Society Symposium* (in press); and Dayton et al. (1995) *op. cit.* n9.

period of three to seven years before calving occurs again.[20] Even if breeding at their maximum rate, a dugong population is unlikely to increase by more than five percent per annum.[21] Similarly albatrosses, depending upon the species, do not reach maturity until between five and 12 years of age.[22] Albatross produce only a single chick every one to two years and the chick may take up to 11 months to fledge. Marine turtles vary from this pattern in that, although long lived and only occasional breeders, they produce a large number eggs per clutch, up to 130 at once, again depending on the species. The recruitment rate remains low however, due to both natural and human predation of eggs, and the high natural mortality rate of marine turtle hatchlings.[23]

Given the public and scientific popularity of these marine wildlife species, their incidental take in fishing operations worldwide remained out of the media for a surprisingly long time. It first gained widespread attention in respect to dolphin mortality caused by both long drift nets and purse-seine operations in the mid 1970s and 1980s. The continued usage of these fishing methods inspired two of the most heated, emotional, and public debates over fisheries since the whaling and sealing controversies of the previous decade.[24]

Bycatch occurs for one of two reasons: either because the gear used is not selective enough, or else because fishers have insufficient incentive to operate the gear in a manner or location that will prevent non-target take. Technological investigation to increase the selectivity of gear is an ongoing process. Devices designed to reduce the amount of bycatch in a particular fishery or with a particular gear type are seldom accepted and adopted by fishers unless three preconditions are met: (1) that minimal loss of target species results, (2) that the use of the bycatch reduction device does not increase the operating costs, and (3) that the device is safe, simple and practicable to

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20 The considerable period between dugong calves is partially explained by the length of pregnancy the nursing period. Gestation lasts for 13 months, and dugong calves then suckle for a further 18 month period.

21 Marsh, H., "An Ecological Basis for Dugong Conservation in Australia" in Angee, M. (ed), *Marine Mammals of Australasia - Field Biology and Captive Management* (The Royal Zoological Society of NSW, Sydney, 1988) pp.9-21.

22 Threat Abatement Planning Team (1998) *op. cit.* n8.

23 Crouse, D., Crowder, L. and Caswell, H., "A Stage-based Population Model for Logerhead Sea Turtles and Implications for Conservation" (1987) 68 *Ecology* 1412; Crowder, L., Crouse, D., Heppell, S. and Martin, T., "Predicting the Impact of Turtle Exclusion Devices on Loggerhead Sea Turtle Populations" (1994) 4 *Ecological Applications* 437; and Heppell, S., Limpus, C., Crouse, D., Frazer, N. and Crowder, L., "Population Model Analysis for the Loggerhead Sea Turtle, *Caretta caretta*, in Queensland" (1996) 23 *Wildlife Research* 143.

24 Joseph, J., "The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts" (1994) 25 *Ocean Development and International Law* 1.

use.[25] To illuminate the nature and provide a better understanding of the problem, the main methods of fish harvest, their bycatches, and available exclusion devices, are outlined below.

## 1.2 Methods of fishing, individual fisheries and their bycatch

Bycatch occurs in almost all fisheries and no large-scale commercial fishing method fits the description of perfectly selective. Fishing gear and methods are designed so as to obtain the best results (i.e. highest catch) with the minimal time and financial outlay (i.e. lowest effort), as determined by the characteristics and behaviour of the target species of a particular fishery.[26] Characteristics and behaviours include fish feeding, spawning, shoaling and migratory activities, a species' ecology or relationships with their habitat and other species, and their herding ability.[27] Bycatch of high numbers of conservation significant species, however, is restricted to a small selection of available fishing methods. Logically though, these methods are those that also provide in the greatest target catch-per-unit-effort, and as such are those predominantly favoured in fisheries.

Although no world standard for the categorisation of fishing gear exists, a benchmark is generally taken from the Food and Agriculture Organisation's (FAO) 1987 gear classification.[28] Fishing vessels, too, vary. Some are defined in terms of their gear such as longliners or trawlers, and others are multi-purpose and can be rigged with different gear to operate in several fisheries. Fisheries, as considered here, are grouped in terms of their gear under the four major categories of long pelagic driftnets and gillnets, purse-seiners, demersal trawls, and longliners.[29]

The extent and nature of the bycatch taken in a fishery, and the most effective means for the reduction thereof, depends primarily upon the fishing method used. Bycatch reduction devices and mitigation methods range from relatively minor gear adaptations or changes in harvesting techniques, to seasonal or spatial closure of entire fisheries.

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25 Tucker, A., Robins, J. and McPhee, D., "Adopting Turtle Exclusion Devices in Australia and the United States: What are the Differences in Technology Transfer, Promotion, and Acceptance?" (1997) 25 *Coastal Management* 405.

26 This is commonly referred to as the catch-per-unit-effort (CPUE), which is a measure of the number or weight of fish caught by a unit of fishing effort, frequently time. CPUE is often used as a measure of fish abundance.

27 Chapman, L., "Fishing Gear", in Bureau of Resource Sciences (ed), *Australian Fisheries Resources* (Department of Primary Industry and Energy, Canberra, 1993) pp.46-63.

28 Food and Agriculture Organization, *FAO Catalogue of Small-scale Fishing Gear (2 Ed)* (Fishing News Books, London, 1987).

29 Other fisheries not considered in this chapter include dredging, lobster pots, squid jigging, and pole and line fishing. Their lack of inclusion is due (with the exception of lobster pots and large cetacean take) to the lack of policy attention afforded any of these gear types to date.

In considering the benefits and costs of each of the fishing methods and bycatch mitigation options outlined below, it is useful to recognise the implications of the complexity of this issue in the following remarks made at a United States' Congressional Hearing on the issue of dolphin bycatch in tuna purse-seine fisheries. The U.S. Deputy Assistant Secretary for Oceans stated that

> [w]e recognise that some people believe that there should be no setting of purse-seine nets around dolphins. However, this would increase the use of other fishing techniques, such as setting the nets around logs or schools of fish. Unfortunately, these other fishing techniques, if used widely, are much worse for the environment overall, because they yield significantly higher bycatch of other species, including sharks, billfish and endangered sea turtle.

## Long Pelagic Driftnets and Gillnets

Gill and driftnets have been used for centuries. In modern times they have been employed chiefly to target squid and salmon on the high seas of the northern hemisphere, and to catch tuna and shark in southern waters, as well as a variety of coastal species. Drift and gillnets are a non-selective passive fishing device, the intention of which is to capture the fish when it attempts to pass through the net, becoming caught behind its gills.[30] The nets are constructed from a series of panels of meshing, held vertically in the water column by floats at the top and weights at the bottom. Their position in the water column and the size of the mesh depends upon the target species and the particular regulations governing its catch.

Gillnetting has traditionally been practiced in both coastal waters and on the high seas, although is more common within nations' 200nm exclusive economic zones (EEZ). The three main types of gillnets are drifting gillnets, bottom set gillnets and coastal gillnets.[31] Drifting gillnets are termed positively buoyant if set with the headline on the sea's surface, and negatively buoyant if set part way down the water column and suspended below the surface from larger floats. Once set the net is generally allowed to fish for between one and six hours, with one end permanently attached to the vessel. The net is then hauled on board and cleared by hand. Bottom set gillnets are also referred to as sharknets, graball nets, or mesh nets. They are similar to drifting gill nets except they fish on the ocean floor and the boat does not usually remain attached to the gear. These nets may be left for up to several days to fish the waters before being hauled onboard and cleared.[32] Because of the considerable time they are left

30 Chapman (1993) *op. cit.* n27.

31 Purse-seines may also be classified as a form of gillnet or under an alternate classification of encircling nets. For the purposes of their bycatch and appropriate mitigation tactics purse-seines are considered as a different gear type to gillnets.

32 Chapman (1993) *op. cit.* n27.

unattended, as well as their bottom dwelling nature, demersal[33] set gillnets are particularly dangerous to the herbivorous dugong in the southern hemisphere.[34] Coastal gillnets (or swinger nets, running nets, or offshore set gillnets) are set adjacent to the shoreline on coastal mud flats. They generally extend through the depth of the water column so as to ensure that they encounter all fish moving in the area and fish from when the tide begins to rise until it recedes.[35]

Large scale driftnet operations are perhaps the method of fishing that has received the most negative publicity, and generated the most debate over the past two decades. This fishing method emerged with the technological advent of monofilament nylon, and the power winch. Long pelagic driftnets have been used by both distant water fishing nations (DWFNs) in the South and North Pacific and Atlantic Oceans, and to a lesser extent by individual nations within their 200nm EEZ. Long driftnets are not, contrary to popular belief, constructed so as to form a single continuous 'wall' or 'curtain'. They are made up of alternating segments of mesh, joined together for up to 10 or 11 km, followed by a break ranging from several tens of meters to one kilometer. A single long driftnet may however span up to 50 kilometers in length. The nets are typically set at dusk, taking three to four hours to deploy, they are allowed to drift with the winds and currents near the surface overnight. The following morning, the crew uses a marine radio on an attached buoy to locate its net. The subsequent winching aboard may take eight or more hours to complete. Occasionally when a net becomes too heavy it will be cut loose and abandoned — left to ghost fish indefinitely. Alternatively a net may not be retrieved if its homing device becomes accidentally detached, or else if a vessel is fishing illegally it may abandon the net to avoid detection or capture.

Because of the scale of long driftnet operations, and because they occur outside of national regulatory boundaries, little control over operations is possible.[36] Referred to as "one of the most deadly fishing methods ever developed",[37] long pelagic driftnets

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33 The terminology, demersal, derives from the Latin 'deme' which means down. Demersal refers to species living on or near the sea bottom. It is extended to fishing operations intended to capture these species. Pelagic or surface dwelling fish (similarly from the Latin 'pela' meaning up) refer to those species living or growing at or near the ocean's surface.

34 Great Barrier Reef Ministerial Council, "Emergency Measures for Great Barrier Reef and Adjacent Area Dugong Recovery and Conservation" Record of Decisions, *22nd Meeting of the Great Barrier Reef Ministerial Council*, 30 November 1996, Brisbane, cited in Preen, A., "Marine Protected Areas and Dugong Conservation Along Australia's Indian Ocean Coast" (1998) 22 *Environmental Management* 173.

35 Chapman (1993) *op. cit.* n27.

36 Although many nation's apply their laws extra-territorially, problems with collection of evidence and the reflagging of vessels makes enforcement often problematic.

37 Paul, L., *High Seas Driftnetting: Plunder of the Global Commons* (Earthtrust, Washington DC, 1991).

have been nicknamed "curtains [or walls] of death".[38] And although intended to target specific species they are notorious for their indiscriminate take of non-target fish and conservation significant species. Cetaceans, marine turtles, sea birds, manatees and dugongs are routinely entangled and drowned in long pelagic driftnets.[39] Although the ratio of target to incidental catch is believed to vary considerably between driftnet fisheries, monitoring and mitigation are difficult. The only tools that appear to be successful in the reduction of bycatch in large scale driftnetting operations are closures — seasonal, spatial or permanent.

Though implicated in the near extinction of several species of porpoise worldwide,[40] small coastal gillnetting operations, in contrast to large scale driftnetting, "need not be any more destructive than other fishing techniques if they are used selectively and in moderation."[41] Notwithstanding this assertion, there has been considerable concern over the incidental capture of dugong, inshore dolphin, turtles and seabirds in gillnetting operations.[42] Restrictions on net drop and length, and compulsory regular monitoring are advocated as the primary tools with which to minimise gillnet bycatch. Limits on the mesh size also will reduce the number of the larger non-target species that are caught incidentally as, in general, the larger the mesh, the more likely that species such as dugongs and turtles will become entangled.

The use of mitigation methods to adequately prevent marine wildlife bycatch in small gillnetting operations remains contentious. A range of acoustic deterrents have been tested, but information has been based upon trial and error and few controlled experiments have been undertaken.[43] The latest popular technological development is the use of pingers, acoustic sounding devices, to alert dolphins of a net's nearby presence and thus reduce dolphin bycatch.[44] This has been successfully trialed with the

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38 Eisenbud, R., "Problems and Prospects for the Pelagic Driftnet" (1985) 12 *Environmental Affairs* 473.

39 For data on the estimated take of large-scale driftnet fishing operations refer to Chapter Four discussions on Sidney Review (section 4.3, text accompanying footnotes 99-105). See also Northridge, S., *Driftnet Fisheries and Their Impact on Non-Target Species: A Worldwide Review* (FAO, Rome, 1991); and Northridge, S., *Environmental Mismanagement on the High Seas: A Retrospective Analysis of the Squid and Tuna Driftnet Fisheries of the North Pacific* (Marine Mammal Commission, Washington DC, 1995).

40 Jefferson, T. and Curry, B., "Global Review of Porpoise (Cetacea: Phocoenidae) Mortality in Gillnets" (1994) 67 *Biological Conservation* 167.

41 Eisenbud (1985) *op. cit.* n38 at 473.

42 Marsh, H., Corkeron, P., Limpus, C., Shaughnessy, P. and Ward, T., "The Reptiles and Mammals in Australian Seas: their Status and Management", in Zann, L. and Kailola, P. (ed), *The State of the Marine Environment Report for Australia: Technical Annex 1 - the Marine Environment* (AGPS, Canberra, 1995) pp.151-166; Brownell, R., Ralls, K. and Perrin, W., "The Plight of the Forgotten Whales: It's Mainly the Small Cetaceans that are Now in Peril" (1989) 32 *Oceanus* 5.

43 Jefferson, T. and Curry, B., "Acoustic Methods of Reducing or Eliminating Marine Mammal-Fishery Interactions: Do They Work?" (1996) 31 *Ocean and Coastal Management* 41.

44 *Ibid.*

harbor porpoise in the U.S. New Hampshire area, with a 92% bycatch reduction rate reported.[45] It has yet to be repeated with the same degree of success in other studies or regions, though.[46] Moreover it has been suggested that even if the effectiveness of pingers is confirmed that alone these may provide insufficient to satisfy marine wildlife protection laws.[47] Further problems include the cost of gear modification, the impracticality of the use of pingers in their current early state of development, and the potential for pinnipeds learn to associate pingers' noises with gillnets from which they feed from fishers' catches prior to hauling.[48]

## Purse-Seiners

Hook-and-line bait boats, of predominantly U.S. register, targeted yellowfin tuna in the Eastern Tropical Pacific Ocean (ETP) throughout the 1940s.[49] By the mid 50s, however, profits had begun to decline due to the combined factors of low productivity and competition from cheap imported tuna.[50] In 1957, the first conversion of a U.S. bait boat into a purse-seiner occurred. The occurrence of incidental capture of dolphins was first brought to public attention in 1968, when documented by a U.S. National Marine Fisheries Service (NMFS) scientist.[51]

In the ETP yellowfin tuna tend to swim directly underneath pods of dolphins, and purse-seining was developed to utilise this unexplained relationship.[52] The name of purse-seining arose out of the catch method which begins by the high speed pursuit of a school of dolphins by motor boats and the use of small explosives called seal bombs to tire and scare them, rounding the dolphins into a herd. This chase lasts somewhere between 20 minutes and an hour.[53] The catcher vessel then encircles the herd with a net in a process known as 'setting on dolphins'. These "house-sized"[54] nets may be up to a

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45 Kraus, S., Read, A., Anderson, E., Baldwin, K., Solow, A., Spradlin, T. and Williamson, J., "Acoustic Alarms Reduce Incidental Mortality of Porpoises in Gill Nets" (1997) 388 *Nature* 525.

46 Dawson, S., Read, A. and Slooten, E., "Pingers, Porpoises and Power: Uncertainties with Using Pingers to Reduce Bycatch of Small Cetaceans" (1998) 84 *Biological Conservation* 141.

47 *Ibid.*

48 *Ibid.*

49 The Eastern Tropical Pacific Ocean or ETP is an area of nutrient-rich waters extending from the U.S.-Mexico boarder down to the equator. Yellowfin tuna are plentiful in this region, and are particularly valuable to the canneries due to their size of up to 400 pounds.

50 Joseph (1994) *op. cit.* n24.

51 *Ibid.*

52 Possible reasons for this connection between dolphin and tuna include the use of dolphin by tuna as a defense mechanism against predators, and the similar feeding habits of the species.

53 Buck, E., *Dolphin Protection and Tuna Seining*, CRS-96011 (Congressional Research Service, Washington DC, 1997).

54 Coulston, C., "Flipper Caught in the Net of Commerce: Reauthorisation of the Marine Mammal Protection Act and its Effect on Dolphin" (1990) 11 *Journal of Ecology, Natural Resources and Environment Law* 97 at 102.

kilometer in length, and using weights and floats they hang as deep as 200-250 meters beneath the ocean surface.[55] Once herded into the open upper part of the net, the bottom is then pulled closed — much like a purse — so as to capture the target yellowfin tuna.[56] Incidental in the process, dolphins also become caught. Dolphins are air-breathing mammals, and entanglement in these nets often results in drowning. This relationship between dolphins and tuna has not traditionally been thought to exist elsewhere, nor hence the dolphin bycatch problem extend outside the ETP.[57]

A number of events in the capture process outlined above may cause increased dolphin fatalities. The mortality rate of dolphins may escalate if strong currents cause the nets to collapse and entangle the cetaceans, or if for some reason the dolphins themselves panic and become entrapped. Nursing mothers may refuse to abandon their captured offspring. Estimates suggest that in the period prior to U.S. statutory restriction more than 100,000 dolphin mortalities occurred in purse-seining operations in the ETP each year.[58] Further to these recorded mortalities, it is suggested that a considerable proportion of the dolphins that are released, or do manage to escape the nets, still die. Research suggests that the average dolphin in the ETP is captured four times each year.[59] Exhausted by the rounding-up process, and being repeatedly captured, the dolphins become susceptible to attacks by predators such as sharks. The use of seal bombs disorientates the dolphins, and these herding explosives can also cause deafness or loss of sonar capabilities. Other physical disorders such as ulcers and stress related illness may occur.[60] Disabilities and trauma may combine to cause the premature death of the animal. These conditions may also cause pregnant females to miscarry.[61]

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55 Buck (1997) *op. cit.* n53.

56 Chapman (1993) *op. cit.* n27.

57 Periodically claims have emerged to suggest that other Pacific purse-seining operations — which had hitherto been thought to be nearly free of dolphin bycatch — witness a similar relation between tuna and dolphin to that of the ETP. Most recently, questions of a similar relationship between tuna and dolphins also existing in other areas were raised in the context of the review of the U.S. tuna labeling laws. Per. comm. Dr Naomi Rose, Marine Mammal Scientist, Humane Society of the United States, Washington DC, 16 April 1999.

58 This estimated mortality level covers the years 1960 to1972. By 1979 the U.S. rate had decreased to around 20,000 individuals per annum. The ETP dolphin mortlatiy rate rose again in the 1980s with the introduction of Latin and South American fleets into the fishery. National Research Council (NRC), *Dolphins and the Tuna Industry* (National Academy Press, Washington DC, 1992).

59 Curry (1999) *op. cit.* n2.

60 Buck (1997) *op. cit.* n53. IATTC scientist contend however that environmental groups' concern over what Congress has referred to as "cryptic kills" is overstated, and that such kills would be noticeable because dolphin carcasses float and hence are highly visible. Others contest this statement, drawing upon the suggestion that dolphin carcasses do not float if the lungs are full of water, and as such carcasses would only surface and be observed after decomposition gasses accumulate.

61 Curry (1999) *op. cit.* n2.

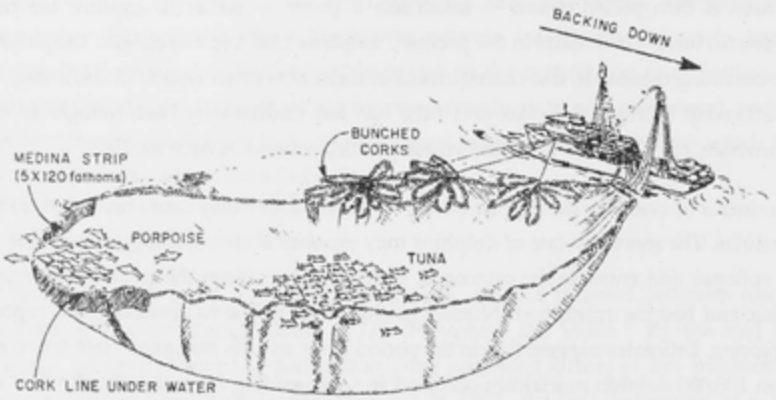


Figure 1: A purse-seiner showing the backdown and release of dolphins
Source – National Marine Fisheries Service (U.S.)

Considerable research into and development of mitigation measures has occurred. A process called 'backdown' has been selectively practiced in the ETP since purse-seining was introduced. Backdown, as it sounds, involves the lowering of nets so that dolphins can escape over the top while the deeper swimming tuna remain entrapped (see Figure 1). The use of backdown, in theory, reduces the number of dolphins killed in a capture to mere dozens. These figures remain contentious however, and 'disaster sets' may occur where a large pod of dolphins — hundreds or even thousands — remains trapped due to either disorientation or human error.

Gear alterations have helped further mitigate the extent of dolphin bycatch in the fishery. For example in 1971 a special panel that reduced dolphin entanglement was developed. The medina panel, named after its designer, is constructed if a finer mesh, thus not entangling dolphins and allowing them to escape. It is generally accepted that further improvements in the level of dolphin take in the ETP tuna fishery can be made, and the progress of designing and implementing a variety of mitigation measures is ongoing.[62]

62 For details of more recent developments see Hall, M. and Campa, M., "Solving the Tuna-Dolphin Problem in the Eastern Pacific Purse-Seine Fishery" (1999) *unpublished manuscript*.

## Demersal Trawls

Trawls are less selective than most other fishing methods. Comprised of complex equipment made from a combination of specialised components, it is the codend or bag at the rear that collects and holds the catch, as the net is dragged. Trawls are used to target a variety of species, the most valuable of which are prawns and shrimp. Other species targeted in both demersal and mid-water trawls include orange roughy, gemfish, blue grenadier, and redfish as well as emperors, rockcod and squid.[63]

Mechanised demersal trawling for prawns and shrimp has, to date, generated the most concern with respect to incidental catches. Australian prawn trawl studies found that the ratio of bycatch to target species catch ranges from between 6:1 to 15:1.[64] The primary conservation significant bycatch to result from trawling is that of marine or sea turtles,[65] concerns over the incidental take of which were first raised in the 1970s in the U.S..[66] It has been estimated that 50,000 adult turtles are captured in shrimp trawls in the southeast U.S. each year.[67] The green, Olive Ridley, hawksbill, leatherback, flatback and loggerhead sea turtles are all listed variously throughout their ranges as endangered or threatened with extinction.[68] It is believed there are only 1500 nesting Kemp's Ridley turtles remaining in the wild.[69]

Mortality of sea turtles in trawling operations may be due to drowning (or comatosation) in the trawl, deliberate kill of turtles by crew, or skull or cervical

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63 Mid-water or pelagic trawling by contrast is much less wide spread. It requires sophisticated (and hence expensive) technical equipment and expertise to locate and accurately target the fish. Problems of seal and sea lion bycatch in these operations have, however, begun to emerge.

64 Dredge, M., *Bycatch from the Central Queensland Prawn Fisheries. 1. The Prawn Fisheries and their Bycatch Composition in Terms of Species and Community Assemblages,* Technical Report FRB 88/4 (Queensland Department of Primary Industries, Fisheries Research Branch, Brisbane, 1988); and Harris, A. and Poiner, I., "Bycatch of the Prawn Fishery of Torres Strait: Composition and Partitioning of the Discards into Components that Float or Sink" (1990) 41 *Australian Journal of Marine and Freshwater Research* 37.

65 It is estimated that over 125,000 turtles die each year as non-target catch in shrimp and tuna operations. Weber, M., Crouse, D., Irwin, R. and Iudicello, S., *Delay and Denial: A Political History of Sea Turtles and Shrimp Fishing* (Center for Marine Conservation, Washington DC, 1995).

66 Hillestad, H., Richardson, J. and Williamson, G., "Incidental Capture of Sea Turtles by Shrimp Trawlermen in Georgia" (1978) 32 *Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies* 167; and Hillestad, H., Richardson, J., McVea, C. and Watson, J., "Worldwide Incidental Capture of Sea Turtles", in Bjormdal, K. (ed), *Biology and Conservation of Sea Turtles* (Smithsonian Institution Press, Washington DC, 1981) pp.489-495.

67 Henwook, T. and Stuntz, W., "Analysis of Sea Turtle Captures and Mortalities During Commercial Shrimp Trawling" (1987) 85 *Fishery Bulletin* 813.

68 It is important to recognise that, in particular in the case of sea turtles and dugong bycatch, a considerable threat is also posed from direct harvesting for food, especially by indigenous communities. There is, however, no reliable source of data on the comparative take levels.

69 Turtle Expert Working Group, *Results of a Series of Deliberations held in Miami Florida, June 1995 - June 1996* (2 July 1996), discussed in Kibel, P., "Justice for the Sea Turtle: Marine Conservation and the Court of International Trade" (1996) 15 *Journal of Environmental Law* 57.

fractures resulting from being dropped onto the tray during hauling. Strangulation may occur if the rope used to drag the turtles out of the trays remains around the turtle's neck. Drowning may occur after the turtle has been returned to the sea due to disorientation or sustained injuries. Individuals may fall prey to sharks or other predators.

One strategy employed to reduce the impact of bycatch upon sea turtle populations is through programs to lower the turtle infant mortality rate: for example, headstarting, captive breeding, and hatcheries.[70] These have been critisised as "halfway technologies" though, due to their concentration on artificially increasing the survival rate of hatchlings in order to allow bycatch and other threatening practices to be maintained at extant levels without further endangering turtle populations. In the long term, it is suggested that such efforts will prove futile.[71] Instead, it is argued that the threatening process itself needs to be remedied, and that concentrated efforts need to be applied to the development of technology that addresses and ameliorates the particular problems faced by the sea turtles without removing them from their natural environment.[72]

One tactic to reduce the mortality of incidentally captured species in demersal shrimp trawls is to limit the time of the trawl so that captured animals will be raised, and freed, before drowning. The main management strategy employed to minimise turtle bycatch in demersal trawling, though, is that of gear modifications. Though marine turtle mortality can be reduced through the employment of manual rather than mechanised hauling devices, this is time and labor intensive, as well as being very difficult to enforce, and thus is not a favoured approach. Instead, the primary instruments used to combat marine turtle bycatch are turtle exclusion devices, or TEDs (see figure 2).[73] TEDs are trap doors placed in the nets, prior to the codend, and so designed to enable turtles, heavier than the target species, to escape. Such passive sorting devices are intended to operate without fishers needing any particular expertise, or incurring any substantial loss of shrimp catch.[74] Feedback on the success of TEDs has been mixed, with observer programs reporting between two and ten percent loss of catch.[75] It has been estimated, however, that TEDs can reduce the

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70 Frazer, N., "Sea Turtle Conservation and Halfway Technology" (1992) 6 *Conservation Biology* 179.

71 *Ibid.*

72 *Ibid.*

73 TEDs are also referred to as trawl efficiency devices.

74 Controversy over the success of these goals is discussed in Margavio, A., Laska, S., Mason, J. and Forsyth, C., "Captives of Conflict: The TEDs Case" (1993) 6 *Society and Natural Resources* 273.

75 Renaud, M., Gitschlag, G., Klima, E., Shah, A., Nance, J., Cailouet, C., Zein-Eldin, Z., Koi, D. and Patella, F., *Evaluation of the Impacts of Turtle Exclusion Devices (TEDs) on Shrimp Catch Rates in*

marine turtle mortality from shrimp fishing operations by up to 97%.[76] The use of these devices has also been found to reduce damage to the nets that is often caused by a range of bycatches. The preferred exclusion device for any single shrimp trawl fishery varies, depending upon the nature of both the target and bycatch species, as well as the seasonality, and no one modification works universally.[77]

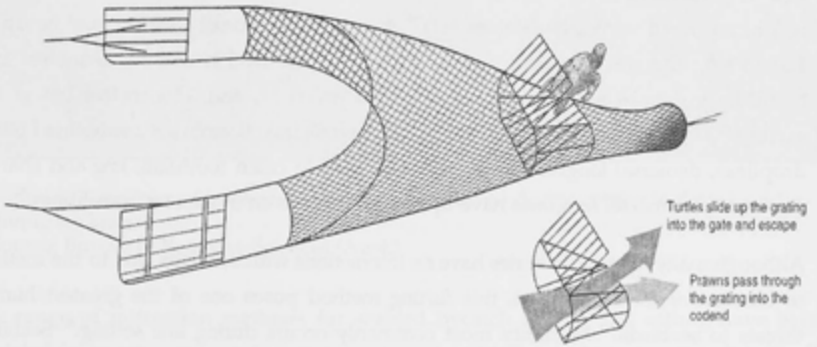


Figure 2: A turtle excluder device fitted in a trawl net
Source: Bureau of Resource Sciences (Aust.)

Demersal trawl nets pose an additional problem to that of discarded fishing and ship debris, because they are particularly prone to catching on the sea floor. One study has found that greatest marine-debris-caused turtle mortalities were associated with trawl nets, and that, unsurprisingly, an expansion in trawling activities has coincided with reports of increased netting debris.[78] No measures to address this impact have been

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*the Gulf of Mexico and South Atlantic, March 1988 through July 1989*, NOAA Technical Memorandum NMFS-SEFC-254 (NMFS, Washington DC, 1989).

76 Kibel (1996) *op. cit.* n69.

77 Kennelly, S., "The Issue of By-Catch in Australia's Trawl Fisheries", in Zann. L. (ed), *State of the Marine Environment Report for Australia: Technical Annex 3* (AGPS, Canberra, 1995) pp.12; Andrew, A. and Pepperell, J., "The Bycatch of Shrimp Trawl Fisheries" (1992) 30 *Oceanography and Marine Biology Annual Review* 527; and Robins-Troeger, J., Buckworth, R. and Dredge, M., "Development of a Trawl Efficency Device (TED) for Australian Prawn Fisheries. II. Field Evaluations of the AusTED" (1995) 22 *Fisheries Research* 107.

78 Mounsey, R., *Interim Draft Report on the Groote Eylandt Fishing Debris Project* (Unpublished report to Northern Territory Fisheries, Darwin, 1997) ; and Jones (1990) *op. cit.* n4.

devised, though it is not unlikely that if the above results persist then the attention afforded to mitigating such impacts will increase.

## Longliners

Longline fishing commenced on a large scale in the 1950s. Longline gear consists of the self explanatory long continuous mainline supported by float lines, and regularly spaced branch lines that end with baited hooks. Although of relatively simple design, the gear can be deployed in numerous configurations and methods so as to increase the catch of particular species and to avoid that of others. It is used to target both pelagic and demersal fish, and as such, the line can be set parallel to the surface (mid water set) or anchored vertically (bottom set).[79] A pelagic or mid-set longline may be up to 130km long and carry between 600 and 3500 barbed steel hooks on 40 metres long branchlines. Hooks are usually suspended between 50 and 150 metres below the surface.[80] These primarily target tuna, billfish and sharks. Bottom set methods of either droplines, demersal longlines or trotlines are used to catch toothfish, ling and sharks. Automated demersal longlines have up to 20,000 hooks on one meter branchlines.[81]

Although many longline fisheries have no interactions with seabirds due to the method or location of their operation, this fishing method poses one of the greatest human threats to seabirds.[82] Mortality most commonly occurs during line setting.[83] Seabirds dive for the bait, and become caught on the hooks or entangled in nearby lines, and drown. Seabird interactions with longlines during hauling has also been recorded in Southern Ocean fisheries, however seabirds more often escape or are freed when this occurs. The extent of subsequent mortality, due to injuries sustained, is once again unknown.[84] More widespread effects which have also been included under the "bycatch" umbrella in Australia, include the deaths due to the ingestion of hooks in discarded fish, and the mortality of chicks due to the death of parent birds.[85] Further bird mortalities have been recorded due to shootings by crew members who view seabirds as competition for bait intended to lure and catch their commercial target fish.

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79 Alexander, K., Robertson, G. and Gales, R., *The Incidental Mortality of Albatross in Longline Fisheries* (Australian Antarctic Division, Hobart, 1997).

80 Threat Abatement Planning Team (1998) *op. cit.* n8.

81 Chapman (1993) *op. cit.* n27. If not automated the number of hooks is usually between 500 and 2000.

82 Birdlife International "Global Impacts of Fisheries on Seabirds", paper presented at *London Workshop on Environmental Science, Comprehensive and Consistency in Global Decision of Ocean Issues* paper presented at Cambridge, 30 November-2 December 1995.

83 Brothers, N., "Albatross Mortality and Associated Bait Loss in the Japanese Longline Fishery in the Southern Ocean" (1991) 55 *Biological Conservation* 255.

84 Gales, R., Brothers, N. and Reid, T., "Seabird Mortality in the Japanese Tuna Longline Fishery around Australia, 1988-1995" (1998) 86 *Biological Conservation* 37.

85 Threat Abatement Planning Team (1998) *op. cit.* n8.

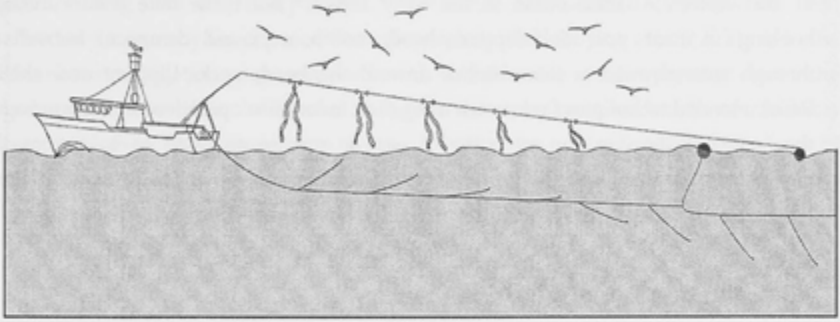

Figure 3: Longliner with streamers on 'tori' lines towed during setting to deter bird for diving for baits
Source: Bureau of Resource Sciences (Aust.)

A range of mitigation methods for seabird bycatch during line setting have been trialed in an attempt to reduce the number of seabirds caught in longline fisheries.[86] Perhaps the most successful mitigation method in reducing sea bird bycatch is that of night setting. Other tactics include modification of the time or area from which offal is discarded, and the reduction of seabird access to baits by increasing the sink rate of the bait by weighting of lines or using bait casting machines that allow for the bait to be tossed beyond the range of the propeller's turbulence which otherwise keeps the bait at the surface longer. Similarly the thawing of bait and puncturing of swim bladders (which make many baitfish highly buoyant) before their casting, allows for more rapid emersion. Tori poles or bird scaring lines have also become widely used as a method for discouraging birds from diving for bait. These consist of a line being suspended over the area where baits are being set, in combination with the use of streamer cords which hang in the water and move in unpredictable patterns to deter birds from foraging on the baits (see figure 3). Towed deterrents, such as buoys operate in a similar way, by disturbing birds as they land to feed on the hooked bait. Other measures are still in the developmental phases. These include underwater setting devices, and "smart hooks" which retract until at a safe depth, and reduce the likelihood of birds being snared should they take a bait. The use of a range of

86 Bache, S. and Evans, N., "Dolphin, Albatross and Commercial Fishing: Australia's Responses to an Unpalatable Mix" (1999) 23 *Marine Policy* 259.

alternative baits less attractive to seabirds, such as squid baits or live bait, has also been mooted.[87]

Afforded much less attention to date, sea turtles are also captured incidental to longline operations, in particular in the warmer waters.[88] The problem however, is potentially of the same scale of significance as sea turtle trawl bycatch.[89] First reported in the western Atlantic ocean in the early 1980s,[90] sea turtle take occurs through hookings in front and hind flippers, head, mouth, neck and carapace, as well as through entanglement in the mainline around the head, neck, flippers and shell.[91] Recommended techniques for bycatch mitigation in longline operations include reducing the length of the line, the retrieving of gear in reverse order so as to reduce the maximum soak time, and the introduction of requirements to move to a new fishing location after a singe marine wildlife interaction has occurred.[92]

## 1.3 Australian Bycatch Management

Australia's experience with bycatch policy has been both brief and varied. By far the greatest governmental effort has been devoted to developing policy in relation to the bycatch of dolphins and albatrosses.[93] The Commonwealth[94] has been visibly more active in protecting marine wildlife from bycatch over the last several years. The various impacts of trawling and gillnetting have recently been afforded policy attention as activities which threaten rare and endangered marine wildlife. In this regard, consideration has thus been extended to concerns of sea turtle and dugong capture incidental to fishing operations. In addition, the Commonwealth has also developed a broad policy document wherein the federal government is committed to developing fishery-specific action plans to reduce bycatch. Stemming from this, a national bycatch policy has been developed in consultation with the states. A brief outline of these actions is provided below.

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87 Threat Abatement Planning Team (1998) *op. cit.* n8.

88 Crouse (1999) *op. cit.* n19.

89 *Ibid*; and Crouse, D. "After TEDs: What Next?" in Abreu-Grobois, A (ed), *Proceedings of the 18th Annual Symposium on Sea Turtle Biology and Conservation* (Mazatlan, Sinola, Mexico, 1998).

90 Witzell, W., "The Incidental Capture of Sea Turtles in the Atlantic U.S. Fishery Conservation Zone by the Japanese Tuna Longline Fleet, 1978-81" (1984) *Marine Fish Review* 56.

91 Gerrior, P., "Incidental Take of Sea Turtles in Northeast U.S. Waters", paper presented at *Pelagic Longline Fishery-Sea Turtle Interactions: Proceedings of an Industry, Academic and Government Experts, and Stakeholders Workshop, 24-25 May 1994*, NOAA Technical Memorandum NMFS-OPR-7 (NMFS, Washington DC, 1996).

92 Other strategies which have been mooted to effect the reduction of marine wildlife bycatch include the introduction of limited entry restrictions and increase of observers onboard. Atlantic Offshore Cetacean Take Reduction Team, *Atlantic Take Reduction Draft Plan* (NMFS, Washington DC, 1997).

93 Bache and Evans (1999) *op. cit.* n86.

94 The title "the Commonwealth government" refers to federal government of Australia.

## Cetaceans and the Driftnet Ban

In 1986 the Australian federal government acted with leadership by banning fishing with long driftnets in the northern Australian Fishing Zone (AFZ) due to the high incidental mortality of dolphins caused by Taiwanese fishing fleets.[95] A joint experimental gear program concluded that mitigation of dolphin bycatch in the up to 300 km long nets was not possible.[96] Meanwhile considerable attention had been afforded the issue by Greenpeace, through publicity and lobbying efforts.[97] Thus, in the absence of mitigation measures, and with considerable public pressure upon the government, Australia introduced stringent controls on the length of driftnets permitted in northern Australian waters. A fisheries notice restricted the use of driftnets in northern Australian waters to less than 2·5 km. Promulgated under the *Fisheries Act*,[98] the result was the elimination of both the cetacean bycatch, and of Taiwanese driftnet fishing in Australian waters.

Two years later, the Forum Fisheries Agency (FFA) member nations seized upon the issue of driftnet fishing in the South Pacific.[99] In November 1988 the first informal consultations between South Pacific nations, on the topic of driftnet fishing, occurred.[100] Then, on 11 July 1989, the South Pacific Forum (SPF) registered its concern about "the damage driftnets were causing to the marine resources of the South Pacific" in the Tarawa Declaration.[101] The Declaration called for a convention to ban

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95 Data was collected by Australian observers placed on Taiwanese driftnet vessels off northern Australia between 1981 and 1985. This revealed that an estimated 14000 cetaceans, the majority of which were bottlenosed dolphins, were taken during this period. Harwood, M. and Anderson, G., *Incidental Catch of Small Cetaceans in an Offshore Gillnet Fishery in Northern Australia Waters 1981-1984* (Australian National Parks and Wildlife Service, Canberra, 1985).

96 *Ibid.*

97 "Push for Ban on Driftnets" *The Launceston Examiner*, 17 October 1991.

98 Fisheries Notice 182, Prohibition on Pelagic Gillnet Fishing off Northern Australia, *Government Gazette* S636, 11 December 1986. Created under s8, *Fisheries Act 1952*. In addition the government also denied foreign driftnet vessels access to Australian ports except in cases of emergency, and prevented the transshipment, within the AFZ, of harvests caught using the driftnet method.

99 It is believed that the issue first raised attention when Taiwanese fishing industry representatives approached the Cook Islands in mid-1988, hoping to use the Islands as a locus of transshipment for South Pacific albacore tuna. Anonmyous,*The South Pacific Albacore Driftnet Issue: Developments Since November 1988 [Update, January 1990] and Second Consultation on Arrangements for South Pacific Albacore Fisheries Management, Internal Meeting, Honiara, Solomon Islands, 28 February-1 March 1990,* FFA Report 90/6 (unpublished document, South Pacific Forum Fisheries Agency, 1990).

100 One of the conclusion from this meeting was that South Pacific albacore was currently being fished at its maximum sustainable level. At the second meeting, in March 1989, it was noted that the expected albacore harvest for that season would be four times greater than the estimated sustainable take level. Anon, *Summary of Recent Developments Relating to Driftnet Fishing* (Unpublished report, Department of Primary Industries and Energy, Canberra, undated) The maximum sustainable level of the South Pacific albacore harvest was estimated at 10,000 tonnes per annum.

101 Tarawa Declaration of the meeting of the South Pacific Forum on 10-11 July 1989, reprinted in *Law of the Sea Bulletin*, No. 14, December 1989. For discussion see Miller, B., "Combating Drift-Net Fishing in the Pacific", in Crawford, J. and Rothwell, D. (ed), *The Law of the Sea in the Asia Pacific Region* (Martinus Nijhoff, Boston, 1995) pp.155-170; Islam, M., "The Controversial Driftnet Fishing in

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driftnetting in the EEZs of SPF states and revealed their intention to create a management regime for albacore tuna in the South Pacific.[102]

Australia swiftly took legislative action to give effect to both the Declaration and to its broader policy of a world wide ban on large scale driftnetting.[103] The [then] Minister for Primary Industries and Energy, John Kerin, passed a notice that revoked the 1986 ban and emplaced a similar but expanded prohibition covering all Australian waters.[104] The federal government also released a fisheries policy statement, further confirming Australia's commitment to the creation of a global ban on large-scale driftnet gear.[105] Highlighted was the indiscriminant nature of this method of fishing and the resultant unacceptable levels of bycatch of marine mammals and other aquatic species.

On 24 November 1989 the Convention for the Prohibition of Fishing with Long Drift-nets in the South Pacific (The Wellington Convention), was entered into by South Pacific Island Nations, Australia and New Zealand.[106] The Convention banned the use of driftnets longer than 2.5km within EEZs of the SPF States. It also prohibited the transport, landing or processing of catch, and harbor access to driftnet vessels.[107] Unsurprisingly, neither Japan nor Taiwan signed the agreement.[108] Japan reiterated its position that there was no scientific reason to ban driftnetting, while Taiwan chose to leave the meeting in protest.

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the South Pacific and the Duty of Conservation and the Management of the Living Resources of the Sea" (1990) 6 *Queensland University of Technology Law Journal* 137; and Islam, M., "The Proposed "driftnet-free zone" in the South Pacific and the Law of the Sea Convention" (1991) 40 *International and Comparative Law Quarterly* 184.

102 Davis, L., "Northern Pacific Pelagic Driftnetting: Untangling the High Seas Controversy" (1991) 64 *Southern Californian Law Review* 1057.

103 Australia had wanted to push for a worldwide ban, however the SPF decided to tackle the issue as a regional problem first. "Global Ban Sought on Driftnet Fishing" *The Sydney Morning Herald*, 11 July 1989.

104 Fisheries Notice AFZ01, Prohibition on Pelagic Gillnet and Driftnet Fishing, *Government Gazette* S255, 25 July 1989. Created under s8, *Fisheries Act 1952*. When in 1991 the existing Australian fisheries legislation was replaced by two new statutes the prohibition of driftnets greater than 2.5 km in length was then included in the legislation itself, s13 *Fisheries Management Act 1991*.

105 Commonwealth of Australia, *New Directions for Commonwealth Fisheries Management in the 1990s - A Government Policy Statement* (AGPS, Canberra, 1989).

106 Convention for the Prohibition of Fishing with Long Drift-nets in the South Pacific, 29 I.L.M. 1449 (1990) (hereafter "Wellington Convention").

107 In addition the Wellington Convention provided that any state may choose to adopt more stringent measures "consistent with international law".

108 In appreciation of the difficulties associated with the convention only being open to FFA members nations, the Wellington Conference endorsed two draft protocols to the Convention which it subsequently adopted in New Caledonia in October 1990. Protocol I, prohibiting driftnetting, was open for any State fishing within the Convention area and Protocol II, prohibiting driftnetting and the transshipment of driftnet catches within nations 200nm EEZs, was open for signature to any nations on or within the Pacific Rim.

The Wellington Convention played a pivotal role and had considerable impact on the raising of global awareness of the problem.[109] Also in November 1989 the South Pacific nations and Australia introduced the issue of driftnet fishing into the General Assembly of the United Nations (UNGA).[110]

## Endangered Species Protection and Albatross Longline Take

It was not until 1987 that marine wildlife was first offered protection under the Commonwealth's principal wildlife statute — the *National Parks and Wildlife Conservation Act*.[111] Although operating by protecting wildlife from deliberate interference, this same statute excused commercial fishing operators from any meaningful obligation to reduce bycatch.[112]

The *Endangered Species Protection Act* (ESPA) was enacted in 1992, forming the cornerstone of the Commonwealth's biodiversity policy.[113] Accordingly, jurisdiction over the Act was given to Environment Australia (EA), the federal government's environment agency. In simple terms, the ESPA provided a legislative strategy for recovering species and communities at risk of extinction, and proscribing activities which pose a threat thereto. The final enacted legislation required the Commonwealth to cooperate with states in protecting threatened species located outside Commonwealth areas, rather than empowering the Commonwealth to act unilaterally.[114]

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109 Davis (1991) *op. cit.* n102; and Rothwell, D., "The Law of the Sea in the Asian-Pacific Region: An Overview of Trends and Developments" (1995) 13 *Chinese Yearbook of International Law Affairs* 81.

110 On 2 November 1989 the driftnet resolution was introduced into the UNGA by Australia, Canada, Fiji, Mauritania, New Zealand, Papua New Guinea, the Solomon Islands, Vanuatu, the United States of America and Zaire. UN Doc. A/C.2/44.L.30, Rev. 1 (1989). For further discussion on see Chapter Four, section 4.3 "Catch and Bycatch in Long Pelagic Driftnets - An international issue".

111 The protection of wildlife from deliberate take was achieved by listing seals and sea snakes in regulations prescribed under section 71 of the *National Parks and Wildlife Conservation Act 1975*. Subsequent to that time several other marine species have been similarly protected, including sea lions, crocodiles, dugong and turtles which were added to Schedule 1, *National Parks and Wildlife Regulations 1992* in 1992.

112 Regulation 55(7)(b), *National Parks and Wildlife Regulations*, provides that no offence is created if a person takes protected wildlife "while engaged in a licensed commercial fishing operation, being an act that is unavoidable in the course of carrying out that operation".

113 Christie, E., "The Eternal Triangle: The Biodiversity Convention, Endangered Species Legislation and the Precautionary Principle" (1993) 10 *Environmental and Planning Law Journal* 470; Dixon, N., "Protection of Endangered Species - How Will Australia Cope?" (1994) 11 *Environmental and Planning Law Journal* 6.

114 The precursor, the *Threatened Species Bill*, was introduced into the Commonwealth Parliament as a Private Member's Bill by the then Environment Minister The Hon. Ros Kelly, after the "Government failed to honour its own much-vaunted commitment to bring in such a national law." This had proposed a statutory regime that covered all Australian waters and lands, regardless of the federal/state jurisdictional arrangements (Transcript of *Four Corners*, Channel Two, 9 September 1991). Notwithstanding the reduced application of the present Act, the ESPA does apply offshore in Australian waters. Section 5(1) provides that -

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The principal scheme of the ESPA involved listing species according to degrees of endangerment, and imposing upon decision makers an obligation to avoid further species loss and to assist with species recovery. The ESPA also allowed for the nomination and listing of activities which posed particular threat to endangered species as key threatening processes (KTPs), which would then invoke a legal requirement that action must be taken to remove or reduce the threat.[115]

Comparatively scant attention has been given to the offshore operation of the ESPA: the exception to this is the incidental take of albatross in longline fishing, and the listing of the latter as a KTP.[116] The issue of albatross bycatch received much less public attention than did that of small cetaceans. A paper by Brothers in 1991[117] prompted realisation of the potential implications of longline fishing bycatch on albatross species.[118]

> Based upon research from 1988 he [Brothers] brought the crisis facing albatross populations into the public sphere. His studies found that a "conservative calculation" of albatross take by Japanese longliners operating in the Southern Ocean was 44,000 birds annually. Breaking this figure down it was estimated that for ever 1000 hooks set, a minimum of .4 birds become entangled and drown; given that an average of 107.9 million hooks are set in southern seas each year this translates to a threatening and unsustainable level of albatross take.[119]

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> For the purposes of the act, any of the following areas, and any parts of the following areas, are Commonwealth areas: ...
>
> (d) the seabed of, and the waters above, the continental shelf of Australia;
>
> (e) the Australian fishing zone ...

Evans, N. and Bache, S., "Fisheries and Endangered Species: Jurisdiction and the Management of Threatening Activities" (1997) 14 *Environmental and Planning Law Journal* 468.

115 A key threatening process (or KTP) is a process that threatens, or may threaten the survival, abundance or evolutionary development of a native species or ecological community. For listing purposes the process must adversely affect two or more species or communities and a nationally coordinated plan must be feasible. A limitation to the efficacy of the threat abatement planning process is that — notwithstanding the prohibition of social or economic considerations in ESSS' considerations — in preparing a threat abatement plan regard must be had to social and economic impacts arising from the implementation of that plan (s34(2)(c)). Evans, N., "Australia Moves to Protect Albatross from Longline Bycatch" (1996) 11 *International Journal of Marine and Coastal Law* 387.

116 Bergin, A., "Albatross and Longlining - Managing Seabird Bycatch" (1997) 21 *Marine Policy* 63.

117 Brothers, N., "Albatross Mortality and Associated Bait Loss in the Japanese Longline Fishery in the Southern Ocean" (1991) 55 *Biological Conservation* 255.

118 Per. comm. Andrew McNee, Director, Wildlife Management, Biodiversity Group, Environment Australia, Department of Environment, Sport and Territories, Canberra, 9 September 1999.

The first report of seabird bycatch was made in 1983 by Morant from band returns, and subsequently Weimerskirch and Jouventin documented a dramatic decline in wandering albatross numbers on the Crozet Islands and implicated trawl and longline fisheries in this. Morant, P., Brooke, R. and Abrams, R., "Recoveries in Southern Africa of Seabirds Breeding Elsewhere" (1983) 4 *Ringing and Migration* 257; and Weimerskirch, H. and Jouvetin, P., "Population Dynamics of the Wandering Albatross, *Diomedica exulans*, of the Crozet Islands: Causes and Consequences of the Population Decline" (1987) 49 *Oikos* 315.

119 *Hansard*, House of Representatives, [Laurie Ferguson, Shadow Minister for Defence, Science and Personnel] 1 September 1997, p.7394.

Initial action occurred under the auspice of the Convention for the Conservation of Antarctic Marine Living Resources.[120] Between 1992 and 1994 seabird bycatch also received its first serious consideration at the Commonwealth level.[121]

Of the estimated 44000 albatross, 8700 albatross were calculated to be caught in the AFZ each year.[122] It was on the basis of this calculation, combined with the very low fecundity of albatrosses, that in mid 1995 the Wandering Albatross and longline fishing were nominated under the ESPA.[123] Taken together, this statutory protection required measures to be actively pursued to recover the albatross from its perilously low levels.[124]

Longline fishing is a curiosity insofar as it displays the legal characteristics of a KTP while at the same time is also a major commercial activity.[125] Indeed, some members of the fishing industry displayed considerable opposition to the ESPA listings and process.[126] Although not unsurprising, this was nonetheless unfortunate, especially considering the willingness with which Australia halted driftnet fishing due to its adverse environmental impacts.

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120 Convention for the Conservation of Antarctic Marine Living Resources, 19 I.L.M. 837 (1980) (hereafter "CCAMLR"). In 1992 CCAMLR introduced what was the first international measure to conserve seabirds from the impacts of longline fisheries. Reports of the incidental mortality of albatross both within and outside of the CCAMLR region led to the establishment of a working group on incidental mortality arising from longline fishing (IMALF) to study the problem. By 1994 it was apparent that not only albatross, but also petrel populations, were at risk from the longline fishery. Thus, since 1994, a series of evolving Conservation Measures, similar to those enunciated in the Australian threat abatement plan (created under the ESPA), have been adopted, aimed at mitigating the impacts of these fishing operations upon seabirds. For example, Conservation Measure 29/XVI: *Minimisation of the Incidental Mortality of Seabirds in the Course of Longline Fishing or Longline Fishing Research in the Convention Area* restricted fishing to night time and required sea bird scaring and streamer lines.

121 Albatross were not considered for the first set of listings under the ESPA, though there was some emergent interest in albatrosses' longline bycatch at the time. Per. comm. Andrew McNee. *op. cit.* n118.

122 Joint Standing Committee on Treaties, *3rd Report - Two International Agreements on Tuna* (The Parliament of the Commonwealth of Australia, Transcript of Evidence) 9 September 1996, p.19.

123 On 24 July 1995 the Wandering Albatross was listed under Schedule 1 as a species that is endangered, and "incidental catch (or bycatch) of seabirds during oceanic longline fishing operations" as a KTP under Schedule 3 of the ESPA. Commonwealth of Australia, *Declaration under s18(1) of the Endangered Species Protection Act 1992*, 24 July 1995, John Faulkner Minister for the Environment Sport and Territories.

124 The ESPA listing of longline fishing as a KTP compelled the Commonwealth to prepare a threat abatement plan to direct the fishing industry's mitigation of seabird bycatch. The plan was legally binding on the Commonwealth and its agencies. Commonwealth of Australia, *Government Gazette*, GN31, 9 August 1995.

125 Explanatory Statement, Declaration under s18(1) of the *Endangered Species Protection Act 1992*, Issued under the Authority of the Minister for the Environment, Sport and Territories, Canberra, July 1995. Evans (1996) *op. cit.* n115.

126 "Pledge to Save the Albatross" *The Age*, 8 August 1998; Madden, T., "Tuna Fishermen Condemn Threat Abatement Plan for Incidental Seabird Catches" (1998) August *Professional Fisherman* 12.

The creation of a threat abatement plan (TAP) was begun by a series of focus groups and the formation of a team. In January 1998, the Minister for the Environment indicated that the government's ultimate goal was to achieve a "zero by-catch of seabirds, especially threatened albatross and giant petrel species, and bring to an end the horrible deaths suffered by these beautiful birds."[127] The final plan, published in August 1998, proposed the reduction of seabird bycatch to below 0.05 birds per thousand hooks by 2003. Given the current estimated rate of 0.4 birds per thousand hooks,[128] this represented an approximately 90% reduction in take within the AFZ. Though acknowledging the inability of a zero bycatch goal to be achieved in the short term, the TAP enunciated this as an ultimate goal, in particular for threatened albatross and petrel species.[129] The plan outlined the need for education and data collection and a series of mitigation measures including gear and method modifications. These included night setting; the use of thawed bait and hydraulic bait throwers; development of underwater setting capabilities; and the deployment of bird scaring devices.[130]

Because albatross range thousands of kilometers across EEZs and the high seas, collective action was recognised as a precondition for successful bycatch mitigation responses.[131] In 1993 the Australian government, under the auspice of the Convention on the Conservation of Migratory Species of Wild Animals,[132] funded a review into existing international mechanisms available for the conservation of albatross.[133] Subsequently, several regional initiatives involving Australia have been commenced. Australia has exported its domestic action regionally through the Conventions for the

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127 "Seabird By-Catch — Ending the Slaughter" *Media Release*, Minister for the Environment, 25 January 1998, 06/98.

128 Alexander et al. (1997) *op. cit.* n79.

129 The singling out of specific species of bird, though logical in itself, stemmed also from deeper issues. Though not actually stymieing the process, opposition had arisen with regard to the wording of the original KTP listing. Industry had been concerned that the transition of the subject at issue to 'birds' rather than albatross would lead to highly prohibitive restriction being placed on their operations. This was dealt with by indicating within the plan that, whilst the provision does apply to all seabirds, in assessing the extent to which the target has been met the species will be taken into account. Madden (1998) *op. cit.* n126.

130 Threat Abatement Planning Team (1998) *op. cit.* n8.

131 Southern Hemisphere albatross breed in the territory of eleven different States (Argentina, Australia, Chile, France, Japan, Mexico, New Zealand, South Africa, United Kingdom, and the United States) and pass through the territory of may other nations. In addition, much of albatrosses life is spent over the high seas.

132 The Convention on the Conservation of Migratory Species of Wild Animals, 19 I.L.M. 15 (1983) (hereafter "Bonn Convention").

133 Gales, R., *Co-operative Mechanisms for the Conservation of Albatross* (ANCA/DFAT, Canberra, 1993). This found that mortality in association with commercial fishing operations was the greatest threat that albatross faced, and that further testing and implementation of bycatch deterrent methods, in particular on longline vessels, was needed. Though some thought was given to the ESPA's extra-territorial application to fishing occurring on the high seas outside the AFZ, it was concluded that other remedies were needed to fill this gap in international protection.

Conservation of Southern Bluefin Tuna (CCSBT)[134] as well as supporting the FAO effort led by Japan and the U.S..[135] Of most recent significance was Australia's nomination of albatross on the Bonn Convention.[136] Australia is presently engaged in negotiations aimed at the creation of a protective agreement for albatross species under this Convention.[137]

## Sea Turtles, TEDs and Prawn Trawl Bycatch

In Australia, management of prawn trawling in the tropics occurs under three regimes.[138] The Northern Prawn Fishery (NPF) stretches between Cape Londonderry in Western Australia to the northern tip of Cape York, encompassing the waters of four jurisdictions — Western Australia, the Northern Territory, Queensland and the Commonwealth. Because of its multi-jurisdictional nature, the NPF is managed by the Australian Fisheries Management Authority (AFMA) as a Commonwealth fishery throughout this area, from low water mark or baselines out to the limit of the AFZ. The other tropical prawn fisheries operate on the Queensland east coast and the Western Australian Kimberlys region. Both are managed by the states pursuant to their fisheries legislation in both state and Commonwealth waters.[139]

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134 Convention for the Conservation of Southern Bluefin Tuna, A.T.S. No. 16, (1994) (hereafter "CCSBT"). The CCSBT included in its ambit the consideration of the impact of fishing on ecologically related species. At the first meeting of the Commission, a working group on ecologically related species (ERSWG) was established, and at its inaugural meeting in December 1995 ERSWG earmarked albatross bycatch as a priority issue.

135 Per. comm. Jennifer Doust, Senior Policy Officer, Fisheries and Aquaculture Branch, Department of Primary Industries and Energy, 24 March 1999.

136 In 1995, a decision was taken to nominate several albatrosses species under the Bonn Convention. This first attempt was unsuccessful. The process of nomination was faulted in that insufficient consultation outside conservation departments had occurred, especially in light of the significant implications a listing may have had for the fishing industry. Finally, on 11 November 1996, Australia's Environment Minister announced that Australia would propose the listing of the 11 albatross species which occur in the southern hemisphere. In April 1997, these were accepted onto the Bonn Convention. "Australia Leads Albatross Conservation" *Media Release*, Minister for the Environment, 16 April 1997, 35/97.

137 The use of the Bonn Convention for a regional albatross conservation was variously mooted in 1997. *Hansard*, House of Representatives [The Prime Minister John Howard], 3 March 1997, pp.1698-1701; CCAMLR, *Report of the Working Group on Fish Stock Assessment* (Hobart, 13-22 October 1997) paragraph 7.30. Currently, the support of a core group of regional nations (the Valdivia group) is being recruited. There is hope that an agreement will be endorsed by member nations in an out of round session in early 2000. Per. comm. Andrew McNee. *op. cit.* n118.

138 Combined, the NPF and the east coast trawl fisheries account for about two thirds of Australian prawn catch by both weight and value and for a large portion of Australian trawl activity (Anonymous, *Queensland Fisheries Production* (Australian Fisheries Statistics, Canberra, 1992).

139 As a result of ongoing dispute, a permenant arrangement between the state and federal governments to divide jurisdiction offshore was created in 1979. Under the Offshore Constitutional Settlement, title and legislative power over the first three miles of coastal waters is vested in the states, while jurisdiction seaward of state waters out to 200 miles accrues to the Commonwealth. With respect to fisheries policy, though, this convention is often abandoned in favour of a more useful arrangement that recognizes the artifice of separating management responsibilities three miles offshore. Management of commercial fisheries may occur under any of four regimes provided for by the Offshore Constitutional Settlement -

- Commonwealth management from the low water mark to the limit of the AFZ;

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In the late 1980s, due to the indiscriminate nature of conventional otter trawls and, in part, responding to the high profile the issue had achieved in the U.S., a series of surveys of sea turtle bycatch in prawn trawlers were conducted.[140] By the early 1990s sea turtle trawl bycatch had become an issue that needed to be addressed. Given the success of the albatross and longlining nominations, and the potential of the ESPA to improve the status of marine species,[141] there was little doubt that the KTP mechanism would be invoked again in respect of commercial fishing activities.[142] In July 1995, the Humane Society International (HSI) nominated "Prawn Trawling" as a KTP affecting six species of threatened marine turtles.[143] The nomination was focused primarily on the impact of trawling on loggerhead turtles.

Listing of endangered and threatened species and communities and KTPs are made to the Director or National Parks and Wildlife and forwarded to the Endangered Species Scientific Subcommittee (ESSS) for examination and recommendation. After considering this advice, the Minister for Environment then makes a decision on the

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- management by states throughout this same area;
- Joint Authority management by both governments under either Commonwealth or state law; and
- status quo management, whereby the states manage fisheries within waters under their jurisdiction and the Commonwealth manages in its waters beyond.

See, Evans and Bache (1997) *op.cit.* n114.

140 Initial results showed that 4114 sea turtles were taken of which 247 died in the NPF in 1988. Error margins of (±1369) and (±90) respectively were assigned to these figures. From this data it was concluded that NPF sea turtle bycatch was at an insufficient level to warrant immediate action, but that further information was needed. Subsequently, observer data was obtained. This indicated that the take was relatively high with an estimated sea turtle capture rate of 5500 in 1989 and 5200 in 1990 in the NPF, with a mortality level of about 14 percent. These figures resulted in a mortality rate between 730 and 770 individual each year in the NPF alone. In a separate study it was found that the eastern loggerhead population had seen a 50 to 80% decline in nesting, attributable largely to trawling activity. The decline documented herein was based upon data collected over a 17 year period. Trawling was also found to have had a significant impact on the southern Great Barrier Reef population of green turtles. Limpus, C. and Reimer, D., "The Loggerhead Turtle, *Caretta caretta*, in Queensland: a Population in Decline" in *Proceedings of the Australian Marine Turtle Conservation Workshop* (ANCA, Canberra, 1994); Poiner, I., Buckworth, R. and Harris, A., "Incidental Capture and Mortality of Sea Turtle in Australia's Northern Prawn Trawl" (1990) 41 *Australian Journal of Marine and Freshwater Resources* 97; Poiner, I. and Harris, A., "The Incidental Capture and Direct Mortality of Sea Turtles in Australia's Northern Prawn Fishery" (1996) 125 *Marine Biology* 813; Robins, J., "Estimated Catch and Mortality of Sea Turtles from the East Coast Otter Trawl Fishery of Queensland, Australia" (1995) 74 *Biological Conservation* 157; and Ramm, D., Pender, P., Willing, R. and Buckworth, R., "Large-Scale Spatial Patterns of Abundance Within the Assemblage of Fish Caught by Prawn Trawlers in Northern Australian Waters" (1990) 41 *Australian Journal of Marine and Freshwater Research* 79.

141 "Great Safety in Numbers for Endangered Species" *Press Release*, Minister for the Environment, 9 July 1997, No. 79/97.

142 Evans and Bache (1997) *op. cit.* n114.

143 "Senator Faulkner Asked to List "Prawn Trawling" as a Threat to Marine Turtles Under Commonwealth Law" *Press Release*, Humane Society International, 20 July 1995. The basis of listing was on incidental catches of sea turtles, sea-snakes, and two species of fish (*Paramonacanthus* species). Estimates reliably put the bycatch of turtles in the Gulf of Carpenteria at about 2000 annually; see, Marsh, H., Corkeron, P.J., Limpus, C.J., Shaughnessy, P.D. and Ward, T.M., "Conserving Marine Mammals and Reptiles in Australia and Oceania", in Moritz, C. and Kikkawa, J. (ed), *Conservation Biology in Australia and Oceania* (Surrey Beatty & Sons, Chipping Norton, 1995) pp.225-244.

nomination.[144] For administrative reasons the trawling KTP nomination was delayed, and an interim decision was not announced until late 1997.[145]

Not convinced by the information available to it, the ESSS remarked that evidence that trawling was adversely affecting the loggerhead turtles was equivocal. Furthermore, the affect upon other sea turtles was considered even less clear. Notwithstanding the dearth of information, it did however make an interim conclusion that prawn trawling adversely affects two species of sea turtle, and "could cause turtle species that are not endangered to become endangered".[146] Thus the ESSS advised the Minister that, though it was not willing to recommend the nominated KTP at this time, it believed that the potential of a nationally coordinated threat abatement plan was worth reviewing.[147] Additional data was to be gathered, and another assessment provided to the Minister in 1998.

Unsurprisingly, the KTP nomination was rigorously opposed by both the fishing industry and by AFMA.[148] Although seemingly sympathetic to fishery agency and industry views, the ESSS noted that

> [w]hile many trials have been carried out and evaluated over a number of years, and quite effective turtle exclusion technology has now been developed, no serious attempts have yet been made by fisheries agencies or industry to implement the widespread use of these devices.[149]

The ESSS, while critical of industry's implementation record, offered an incentive for TED adoption. It noted that if an effective TED program is implemented in Australia under other legislation or by industry initiative, then it may be no longer necessary to consider the KTP application.[150]

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144 ESPA, section 24.

145 Interim Advice to the Minister for the Environment from the Endangered Species Scientific Subcommittee (ESSS) on a public nomination to Schedule 3 of the *Endangered Species Protection Act 1992* (unpublished, 1997) (Hereafter "ESSS Interim Prawn Trawling Advice"). In 1995, membership to the Endangered Species Scientific Subcommittee (ESSS) expired and the nomination assessment process was halted, pending the reconstitution of the ESSS by the Environment Minister. Jones, M. and Evans, N., "Fishing and the Environment", in Caton, A., McLoughlin, K. and Staples, D. (ed), *Fishery Status Reports 1997: Resource Assessments of Australian Commonwealth Fisheries* (Bureau of Resource Sciences, Canberra, 1997) pp.103-111.

146 ESSS Interim Prawn Trawling Advice (1997) *op. cit.* n145 at 4.

147 *Ibid.*

148 Armstrong, M., Maguire, K. and Robins, J., "Recovery Planning in Australia: Benefits of a Cooperative Approach", paper presented at *2nd ASEAN Symposium and Workshop on Sea Turtle Biology and Conservation: Beyond the Beach*, Kota Kinabalu, 15-17 July 1999 (University of Malaysia, Sarawak, in press).

149 ESSS Interim Prawn Trawling Advice (1997) *op. cit.* n145 at 3.

150 *Ibid.*

The ESPA also provided for a second legislative mechanism through which sea turtle recovery could be facilitated — recovery planning.[151] In theory all endangered and vulnerable species listed under the ESPA must have a recovery plan prepared and implemented. With regard to sea turtles, in late 1997, Senator Hill announced that a recovery plan, funded out of the national heritage trust, would be created in order to address the primary threats to long term sea turtle survival.[152] As required, the plan contained the four critical elements of: an objective; criteria against which this was to be measured; outline actions to protect critical habitat; and a budget and timetable.[153]

Due to a lack of data, the recovery planning team found it difficult to be prescriptive about the actions needed to be taken, and this led them to take a threat-based approach to the recovery process.[154] A draft plan was completed in early 1999, and a final plan was due to be released in September.[155] Although not as yet released in its final form, Senator Hill has remarked that

> I expect that the Recovery Plan for Marine Turtles will look at increased use of Turtle Excluder Devices (TEDs) in the prawn trawling industry.[156]

Meanwhile, reacting to the threats of federal action, international trends, and a genuine concern about sea turtles, both the NPF and the Queensland trawl fishery developed management plans to mitigate and manage the impacts of otter-trawling upon sea turtles. The first move towards sea turtle bycatch mitigation occurred with the development and adoption of the Code of Fishing Conduct and Recovery Procedures for Turtle Captures.[157]

With some federal persuasion,[158] Queensland fisheries managers firstly created compulsory TED requirements in seven designated areas,[159] which will become

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151 Armstrong et al. (1999) *op. cit.* n148. The other two mechanisms available under the ESPA for sea turtle recovery are conservation agreements and conservation orders.

152 "Saving Our Marine Turtles" *Media Release*, Minister for the Environment, 25 November 1997; see also "Plan Aims to Rescue Turtles From Extinction" *The Canberra Times*, 13 April 1998.

153 Male, B., "Recovery of Australian Threatened Species – A National Perspective", in Stephens, S. and Maxwell, S. (ed), *Back From the Brink: Refining the Threatened Species Recovery Process*, (Surry Beatty and Sons, Chipping Norton, 1996) pp.23-27.

154 In addition to trawling, other threats came from marine debris, customary (indigenous) harvest, non-trawl fisheries and boating interactions, shark control activities, predation by feral animals on eggs, and loss of habitat. Anonymous, *Draft Recovery Plan for Marine Turtles in Australia*, (Marine Wildlife Management Section, Biodiversity Group, Environment Australia, Canberra, 1998).

155 Armstrong et al. (1999) *op. cit.* n148.

156 "Hill Acts to Protect Marine Turtles" *Media Release*, Minister for the Environment, 12 August 1999.

157 The creation of a Code of Conduct occurred in 1995 in Queensland and the following year in the NPF. Anonymous, *Turtle Recovery Procedures and Code of Fishing Ethics: The Capture of Sea Turtles* (unpublished, Queensland Commercial Fisherman's Organisation and the Queensland Department of Primary Industries, Brisbane, 1995). Armstrong et al. (1999) *op. cit.* n148.

158 The federal Minister for the Environment requested that TEDs be compulsory throughout the Great Barrier Reef Marine Park. In so doing he stated that if Queensland refused to comply with this request

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compulsory throughout the Great Barrier Reef region by 1 January 2001.[160] Meanwhile, in the federally managed NPF, in anticipation of the long-awaited and delayed Commonwealth bycatch policy, the fisheries advisory management committee began the preparation of a bycatch action plan in 1997. The plan was agreed to on 11 March 1998 and implementation actions were approved by the AFMA board two weeks later.[161] The main objective of this action was a reduction in the number of turtles captured annually in prawn trawls to about 5% of the estimated 1989/1990 figure — that is from 5370 to 268, with a total annual mortality of around 40 turtles.[162] The related strategy in pursuit of this aim was that

> [t]he use of Turtle Excluder Devices (TEDs) will be compulsory in the NPF by a date to be determined by NORMAC [Northern Prawn Trawl Management Advisory Committee] but no later than the commencement of the fishing season in the year 2000.[163]

In 1999, the ESSS provided its final advice to the Minister for the Environment for consideration.[164] This recommended that trawling be listed as a KTP. The Minister, in deciding not to list, accepted the Attorney-General's advice relating to potential Constitutional and jurisdictional problems with the application of the ESPA in state waters.[165] The federal government's legal advice has never actually been tried in a court

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then he would create the said requirement under the auspice of Great Barrier Reef Marine Park Authority (GBRMPA), from whom he had already received a pledge of support for such a move. Per. comm. Mark Armstrong, Policy Officer, Biodiversity Group, Environment Australia, Department of Environment Sport and Territories, 17 June 1999.

159 Section 85 "Requirement to use a turtle exclusion device" *Fisheries (East Coast Trawl Fishery) Management Plan* 1999 created under the *Fisheries Act 1994* (Qld), active 1 May 1999. The only dilemma in the fishery seems to be the acceptance of the need for TEDs in deeper waters where the chance of sea turtle bycatch is very slight.

160 Ministerial Council on Forestry Fisheries and Aquaculture, *National Policy on Fisheries Bycatch* (AFFA, Canberra, 1999) (Hereafter "National Bycatch Policy").

161 NORMAC, *Northern Prawn Fishery: Bycatch Plan of Action* (unpublished, AFMA, Canberra, 1998).

162 As well as through gear modifications, the realisation of this result will be assisted by the 38% reduction of the number of fishing days per year that has occurred since that data was collected. If the sea turtle catch rate has remained constant at 25 turtles per trawler per year, then catch rate for the present fleet would be around 3200. Anon. "Northern Prawn Fishery — Background Paper on Bycatch" in NORMAC, *Northern Prawn Fishery: Bycatch Plan of Action* (unpublished, AFMA, Canberra, 1998) pp.10-21.

163 *Ibid* at 7. Another alternative mooted, should TEDs prove unsuccessful in achieving this bycatch reduction goal, were time area closures, to be determined in consultation with Environment Australia.

164 Advice to the Minister for the Environment and Heritage from the Endangered Species Scientific Subcommittee (ESSS) on a public nomination to Schedule 3 of the *Endangered Species Protection Act 1992* (ESP Act), (unpublished, August 1999) (Hereafter "ESSS Prawn Trawling Advice").

165 Armstrong et al (1999) *op. cit.* n148. Advice from the Attorney-General's department indicates that the ESPA can not apply outside of Commonwealth areas without first receiving the agreement of all the states and territories. The ESPA's forcing provisions apply to Commonwealth areas and the decisions of Commonwealth agencies, a concession made to the states at the time of enactment. In relation to the waters above the continental shelf and the AFZ, the efficacy of the ESPA should therefore be assured, as these are defined as Commonwealth areas (s.5(1)). With regard to prawn trawling under the NPF federal regime, much activity occurs within state waters, and thus questions as to the extent to which fisheries' decisions made by the Commonwealth in respect of state waters are covered by the statute arise. The Commonwealth appears bound to seek state cooperation in preparing and implementing recovery and

of law, and indeed, with the activation of replacement statute in 2000, these legal questions will become entirely academic.[166] Moreover, and with regards specifically to sea turtles, by 2001 TEDs will be in place in most Australian prawn trawling fisheries.

Sea turtles — as with albatross — are highly migratory, and require multilateral protection to ensure their long term survival. In 1995, the year of the sea turtle in the South Pacific region, Australia first began to publicly contemplate the urgent need for regional attention.[167] Objectives of an upcoming Indian Ocean meeting to be held in Perth include to

- identify potential regional scale actions to reduce of threats to marine turtles;
- identify and consider regional mechanisms to manage marine turtles; and
- develop an indicative timetable for cooperative priority actions to progress regional management.[168]

Although having no official position, both the Foreign Affairs and Environment Ministers favour the use of the Bonn Convention to create a regional agreement.[169]

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threat abatement plans that include activities occurring in state waters, because these are non-Commonwealth areas (ss.31(2), 33(2)). To this end, the success or otherwise of the Commonwealth's plan depends upon the goodwill and assistance of state governments. Hence, and although the Commonwealth is required to prepare and implement threat abatement plans under the ESPA regardless of the fisheries management regime in place (ss.31(1), 33(1)), the question of listing of a process and the ability of a plan to mitigate the threat posed by the process in state waters, may deem a KTP nomination inappropriate.

Notwithstanding this advice, the FMA expressly provides that the three miles of state waters are taken to be part of the AFZ with respect to fisheries managed by the Commonwealth pursuant to an OCS arrangement (s76). An argument could therefore be mounted that the Commonwealth can prepare and implement plans unfettered by the need to cooperate with states because a clear and enforceable exclusive Commonwealth mandate has been created within state waters. This curious situation is quite unanticipated within the ESPA, and is possibly antithetical to the enacted accordist policy of the legislation. Evans and Bache (1997) *op. cit.* n114.

166 Becoming active in mid 2000 is a new statute, created to replace and combine five existing Acts, including the ESPA, as well as creating new policies and regulations. The Environmental Protection Biodiversity Conservation Bill and subsequent Act (EPBC Act) has maintained most of the extant aspects of the ESPA. The difference, though, is in its application. In 1997 and recently renewed with the passage of the EPBC legislation, was an agreement within the Council of Australian Governemnt (COAG) that the protection of threatened species and migratory species were issues of national environmental significance. Thus under the new federal legislation the Commonwealth Environment Minister is in a much more prominent position to that which has historically been the case. Thus, it may be pondered whether the trawling KTP nomination will be revitalised after the activation of this new legislation in July 2000. See Ashe, J., "Recent Developments: Commonwealth *Environmental Protection and Biodiversity Protection Act* 1999" (1999) 3 *Australian Environmental Law News* 6.

167 "Guide to Help Save Marine Turtles" *Media Release*, ANCA (Australian Nature Conservation Agency), 14 September 1995.

168 Letter of Invitation, Perth Indian Ocean Sea Turtle Conservation Workshop, 19-22 October 1999, to the IUCN Marine Turtle Specialist Group, from Andrew McNee, Director, Wildlife Management, Biodiversity Group, Environment Australia, 22 September 1999.

169 The Australian government's preferential selection of the Bonn Convention as the instrument to create a multilateral regional sea turtle protection under is based upon a two-pronged rationale. Firstly, current Australian government policy is to not subscribe to new instruments, if there are existing ones adequate to the task. Secondly, as a member nation of the Bonn Convention, there is an obligation carried, in essence, to promote this instrument.

## Dugong Protection and the Regulation of Gillnetting

Dugongs' range in Australia extends through tropical and sub tropical waters concentrating between Moreton Bay on the east coast to Shark Bay on the west. It is generally believed that, due to the level of threatening activities elsewhere, Australia is the dugong's last stronghold.[170] By 1996, the Commonwealth government was under considerable public pressure to take action to remedy the dugong's decline, particularly due to incidental capture in protective shark nets and gillnet fisheries.[171]

Industry groups in Queensland strongly deny that the bycatch of dugong in gillnets is a problem, and vociferously opposed regulatory action.[172] A concerted campaign to discredit not only data, but also the scientists involved, was launched.[173] Leading this action was the Queensland Commercial Fishermen's Organisation (QCFO).[174]

Notwithstanding intense industry opposition, by 1997 dugong mortalities in Shoalwater Bay had resulted in the creation of a Great Barrier Reef Marine Park Authority (GBRMPA) consultative management plan which prohibited all driftnetting in Shoalwater Bay.[175] The intent was to mitigate the dangers posed to dugongs in that area, by banning the carriage of all nets in that area and making it an offence to interfere with dugongs.

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170 Marsh et al. (1993) *op. cit.* n143.

171 Dugongs' survival is perhaps more precarious than any of the previously considered bycatch species. This is due both to the fragility of their population status and their susceptibility to threats: fecundity is particularly low, with a 1-2% loss of mature females thought to be greater than a population can withstand; furthermore, dugongs can not survive longer than 8 minutes underwater without surfacing to breathe, and are thought to suffer cardiac failure from capture stress. Indeed, the dugong has been listed as vulnerable to extinction by the International Union for the Conservation of Nature (IUCN) since 1982. Marsh (1988) *op. cit.* n21; and Marsh, H. and Anderson, P., "Probable Susceptibility of Dugongs to Capture Stress" (1983) 25 *Biological Conservation* 1.

172 "Safety zones to protect dugongs on Reef" *Sydney Morning Herald*, 15 August 1997.

The Northern Territory industry is not as actively opposed to dugong protection as are Queensland groups. Indeed the government and fishers in the Northern Territory are progressively taking actions aimed at the reduction of dugong bycatch. Per. comm. Dr Nick Rayns, Director, Northern Territories Fisheries, Darwin, 14 September 1999.

173 Among the tactics employed was a letter sent to the Director-General of the IUCN with claims of "misconduct by falsely asserting a decline in the dugong population and disseminating misleading information.... [and] wilfully engineering an artificial emergency to milk the public purse". Cited in Marsh, H., "Bulletproofing Science Against Extremists: Advice for Sirenian Researchers" (1999) 31 *Sirenews* 1.

174 Per. comm. confidential source.

175 In 1996, Shoalwater Bay had been listed under the Convention of Wetlands of International Importance 1971 (Ramsar Convention), and thus protection to the habitat of this region was required. The Shoalwater Bay (Dugong) Plan of Management was gazetted on 9 April and came into force in May 1997. See Slater Slater, J., "The Legal and Policy Issues Involved in Protecting a Population of Dugongs (Dugong Dugon) from Gill Netting in Shoalwater Bay, of the Great Barrier Reef World Heritage Area" (1997) 2 *Australian Environmental Law News* 14.

Meanwhile, in 1995, in response to a nomination under the ESPA,[176] a report had been commissioned that found that though dugong populations were in general healthy in Australia, off the Queensland coast they had fallen by between 50 and 80% from 1986 to 1994.[177] Thus, despite evidence that the dugong was not in danger Australia-wide, they had suffered a "catastrophic decline" in numbers along the Queensland coast.[178]

Towards the end of 1996, the federal Minister for the Environment, Robert Hill, announced the federal government's intention, with the support of the Queensland government, to establish a chain of dugong sanctuaries.[179] Thus, once again, area declarations were used as an attempt to combat the impact of gillnetting activities upon dugong populations.[180]

A series of dugong protection areas (DPAs) along the Queensland coast were created based upon an independent review of scientific information.[181] Sixteen DPAs, at approximately 200km intervals, were to be established along the Queensland east coast, in which gillnetting was either prohibited,[182] or safeguards were put in place to minimise the impacts of fishing upon dugongs.[183] An endangered species awareness course was also made compulsory for all Queensland commercial fishers. The closure and compensation of 38 fishing operations resulted in the consequential loss of jobs.[184]

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176 Advice to the Minister for the Environment from the Endangered Species Scientific Subcommittee (ESSS) on a Public Nomination to Schedule 3 of the *Endangered Species Protection Act 1992* (unpublished, 1995).

177 In 1998, the ESSS had advised the Minister to deny an earlier KTP nomination, though it reserved a final decision on the conservation status of dugongs, this nomination to be reviewed in five years.

178 Marsh, H., Corkeron, P., Lawler, I., Lanyon, J. and Preen, A., *The Status of the Dugong in the Southern Great Barrier Reef Marine Park* (Great Barrier Reef Marine Park Authority, Townsville, 1995).

179 "Urgent Action Taken on Dugong Decline" *Media Release*, Minister for the Environment, 4 December 1996, No. 172/96. See also Bache, S., "Federal Marine Wildlife Initiatives" (1997) 4 *Australian Environmental Law News* 6.

180 *Hansard*, Senate [Senator Robert Hill, Minister for the Environment], 19 June 1997, p.4643.

181 The restriction on mesh netting were implemented on 12 January 1998 under the *Queensland Fisheries Act*, "Hill Welcomes World's First Dugong Sanctuaries" *Media Release*, Minister for the Environment, 11 January 1998, 03/98.

182 In zone A sanctuaries, the use of offshore set nets, foreshore set and drift nets was prohibited, with the exception of the Sandy Bay area, and the Great Sandy strait sanctuary where specialised practices were permitted with modification. River set nets were also prohibited in all bar two zones: those of Hinchinbrook and Shoalwater Bay. See url:

http://www.gbrmpa.government.au/information/dugong/modifications.html

183 In zone B, restrictions and gear modifications included a limit on the length of offshore nets to 600 metres, fishing only in water at least two meters deep, and with the fisher within 100 meters of the net. Foreshore set nets were restricted to 200 meters length, with the nets no more than 800 meters apart and the distance between the first and last net no greater than 1 kilometer. *Ibid.*

184 Compensation, in the form of *ex gratia* payments to those fishers affected by the creation of zone A sanctuaries, was made available for the surrender of fishing licenses or redundancy as a crew member. *Ibid.*

## A New Agenda — Bycatch Policy

As seen by the increased attention in the mid-1990s and increasingly as 2000 approaches, discarded bycatch is becoming an issue of policy concern in Australia. Most recently elevated to the status of an issue requiring policy action, and to date escaping significant public attention, was the bycatch of seals in mid water trawling operations off the west coast of Tasmania.[185]

Though the bycatch of seals is traditionally of a very low order, in 1999 an uncharacteristically high number of seals were taken in this fishery.[186] In response, in September 1999, AFMA acted to temporarily prohibit the entrance of three New Zealand factory trawlers to Australian waters, citing the inability of seal to escape given the speed of the trawling as the reason for this high take.[187]

This cases reflect a trend (evidenced in the U.S. case studies which follow) whereby, as fisheries' interactions continue to occur and previously low numbers of marine wildlife increase due to greater protection, the bycatch of these species also increases. As the incidental take of unthreatened populations of marine wildlife which command significant public interest escelates, bycatch will become an issue that is increasingly fought out over philosophical and ethical grounds, rather than those of population viability.

Intended, in part, as a framework within which to address these emergent problems are the federal government's Commonwealth and national bycatch policies. The introduction of a process to create a bycatch policy within the federal government was not a surprising development. Both the 1996 and 1997 annual Commonwealth fisheries status review considered, as a key environmental issue, "bycatch, especially of high profile, threatened marine species — seabirds, dugongs and turtles".[188] In 1998 a

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185 The South East Trawl Fishery is a complex mulit-species fishery, managed under AFMA's jurisdiction using a regime of individual transferable quotas (ITQs). The gear is configured such that it 'flys' off the bottom, an arrangement that reportedly has considerable potential to incidentally capture seals. Indeed, the Action Plan for Australian Seals identifies nine threatening processes, included in which are interactions with fisheries. Shaughnessy, P., *The Action Plan for Australian Seals* (Environment Australia, Canberra, 1999).

186 Between 1993 and 1995, in a total of 1886 trawl shots, a total of 46 fur seals were recorded as taken (Harris, A. and Ward, P., *Non-Target Species in Australia's Commonwealth Fisheries - A Critical Review* (Bureau of Rural Sciences, 1999)). Records from 1998 indicate that only three seals were taken in that season. In the 1999 winter season, 89 seals were taken, of which only six were returned to the water alive. Per. comm., confidential source.

187 "NZ Trawlers Banned" *The Daily Telegraph*, 28 September 1999; "Animal Activists Fear Seal Net Deaths" *The Hobart Mercury*, 28 September 1999; "Seals Killed" *The Canberra Times*, 28 September 1999.

188 Wallner, B., Ward, P., Jones, M., Hamdorf, I. and Harris, A., "Fishing and the Environment", in McLoughlin, K., Wallner, B. and Staples, D. (ed), *Fishery Status Reports 1996: Resource Assessments of Australian Commonwealth Fisheries* (Bureau of Resource Sciences, Canberra, 1996) pp.119-131; and Jones and Evans (1997) *op. cit.* n145.

separate chapter on fishing and non-target species appeared.[189] This was a result of a nearly two year review undertaken to provide data on the effects of fishing in Commonwealth waters.[190] These developments reflected a marked increase in federal commitment to the consideration of the bycatch of non target non-fish species. Though yet to be publicly released, the review itself is highly critical of the lack of information and data collection efforts with respect to non-target catch in Australian fisheries, commenting on the absence of even baseline data for many fisheries.[191]

In June 1997, the AFMA-convened Commonwealth bycatch taskforce released its draft bycatch policy for comment.[192] Herein was recognised that bycatch is a problem in need of redress, and the creation of bycatch action plans for all Commonwealth fisheries was foreshadowed.[193] As such, the policy provided a framework for the coordination of efforts, and supplemented rather than replaced other initiatives such as that of threat abatement plans prepared pursuant to the FSPA. The plan also highlighted the dearth of adequate data and the need for its collection in order to deal with bycatch in a systematic and equitable manner.

Lacking, however, was any enunciation of the expected outcomes, time frames, or the performance indictors.[194] Also criticised was the lack of an explicit goal to actually reduce bycatch.[195]

> If we try to develop strategies without a framework outlining the explicit objectives that we want to achieve, we are likely to find ourselves setting precedents and developing rules which may be overlapping or even conflicting, or – perhaps even worse – which merely displace problems from one fishery or region to another without actually resolving them.[196]

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189 Harris, A., "Fishing and Non-Target Species", in Caton, A., McLoughlin, K. and Staples, D. (ed), *Fishery Status Reports 1998: Resource Assessments of Australian Commonwealth Fisheries* (Bureau of Resource Sciences, Canberra, 1998) pp.149-161.

190 Harris and Ward (1999) *op. cit.* n186.

191 *Ibid.*

192 *Commonwealth Bycatch Policy - A Draft for Public Comment.* Australian Fisheries Management Authority, Canberra, 1997 (hereafter "draft Commonwealth Bycatch Policy").

193 Open letter accompanying the draft Commonwealth Bycatch Policy, from Richard Stevens, Managing Director AFMA, 2 June 1997.

194 Comments on the draft Commonwealth Bycatch Policy, Submission No. 17, Alison Russel-French, Acting First Assistant Secretary, Portfolio Marine Group, EA.

195 Comments on the draft Commonwealth Bycatch Policy, Submission No. 7, David Nicholls, Peninsula College of TAFE; Submission No. 13, Gordon Anderson, Assistant Director, Marine and Policy Integration Section, Biodiversity group EA and Great Australian Bight MAC member; Submission No. 17, Alison Russel-French, Acting First Assistant Secretary, Portfolio Marine Group, EA.

196 Metzner (1999) *op. cit.* n12.

Notwithstanding these broad criticisms, there was wide ranging acclaim for the policy. Although NGO support had been expected, encouragingly, the fishing industry were also very much in favour of its creation, stating in its submission that

> the seafood industry is concerned about the fisheries bycatch problem and considers it a major issue in terms of sustainable fisheries management, industry economics, and the environmental credentials of the industry. The bycatch problem is more than one of perception.[197]

Moreover, support for the intention and process of the development of a Commonwealth bycatch policy stretched across typically partisan political lines.

> In response to scientific information, developments are now occurring where a range of interest groups are working together, to combat both species specific impacts and more broadly in the formation of a Commonwealth bycatch policy. This is an unprecedented alliance of government, industry, and conservation bodies, wherein no party sees any benefit stemming from the bycatch of conservation significant species.[198]

The revised document incorporated a wide range of views from public, industry, government and non-government stakeholders. The strength of the policy remained its creation of fisheries-specific action plans. The plan then stalled however. A multiplicity of reasons for this have been suggested, among them being that subsequent alterations made to the plan by Enironment Australia were so significant that the plan no longer belonged to the taskforce.[199]

In late July 1997, the Ministerial Council on Forestry, Fisheries and Aquaculture agreed to develop a nationally coordinated bycatch policy.[200] This commitment has elevated the inter-governmental priority being afforded bycatch problems.[201] It represented a commitment by all Australian states to contribute and abide by a national bycatch policy. Once again, specifically mentioned were albatross, dugongs and turtles.[202]

As an initial step, a discussion paper was released by the Council for public consultation at the end of the year. In its final form the federal plan recognised the increasing international attention being paid to bycatch, and the need to develop a more strategic approach towards bycatch in Australian waters.

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197 Comments on the draft Commonwealth Bycatch Policy, Submission No. 18, Bill Nagel, CEO, Australian Seafood Industry Council.

198 *Hansard*, House of Representatives, [Laurie Ferguson, Shadow Minister for Defence, Science and Personnel] 1 September 1997, p.7394.

199 Per. comm. Richard Stevens, Managing Director, AFMA, Wednesday 26 November 1997.

200 "Fisheries Ministers Agree to Tackle Bycatch" *Joint Media Statement*, Ministerial Council on Forestry, Fisheries and Aquaculture, 25 July 1997, DPIE 97/189PJ.

201 *Ibid.*

202 *Ibid*

In the event, the national plan overtook the Commonwealth's, and was released in October 1999 with the agreement of, and contributions from, all state governments. The national bycatch policy highlighted the need to address bycatch in a coordinated manner, and to achieve a common understanding by stakeholders of the need for action. The objective was to "ensure that bycatch species and populations are maintained at sustainable levels." Three policy sub-objectives were to

- reduce bycatch;
- improve protection for vulnerable/threatened species; and
- minimise adverse impacts of fishing on the aquatic environment.

The range of strategies outlined for achieving these included issue prioritisation, development of codes of practice, compensation adjustment measures, regulatory action and the use of economic incentives, education and training, encouragement of research funding, and enhancement of data quality.[203]

Subsequent to the completion of the national policy, concerns over the fate of the Commonwealth policy have emerged. These concern the preferred manner of handling the presence of, not one, but two bycatch plans involving the federal government. Both EA and AFMA were insistent that the Commonwealth plan still be released under their combined bailiwick.[204] Indeed although still not finalised there is certainly some merit in maintaining the Commonwealth plan in that it contains specific actions for the implementation of the goals espoused in the overarching national document: that is bycatch action plans to be created for every federally managed fishery.

Notwithstanding recent developments, Australia remains in the formative stages of its efforts to address bycatch through policy responses. Data is scant, and procedural responses to new issues as they arise, remains ad hoc. The U.S. by comparison has much more experience and explored in greater detail the various options regarding bycatch policy. It is the influences on this policy that this thesis is concerned with. The next chapter outlines existing literature from public and environmental policy and marine management fields, to provide a marine policy framework with which U.S. experience can be examined.

From this study, and supported by published literature, four factors of particular interest can be seen as having a reoccurring role in raising the agenda, and promoting the formation and implementation of marine wildlife bycatch policy. In the case of driftnets, NGOs were instrumental in raising the profile of the issue and having it attended to. In addition, domestic political forces had a significant influence in

203 National Bycatch Policy (1999) *op. cit.* n3.

204 Draft Commonwealth Bycatch Policy (1997) *op. cit.* n192.

Australia's actions in the South Pacific; and conversely domestic action was driven by Australia's international goals. In comparison, attention to albatrosses has been driven primarily through science, both in the raising of the issue and in the formation of a responsive policy.[205] Most recently, in the cases of sea turtle take and dugong bycatch domestic players, such as industry and state/federal interactions, have had considerable influence over the policy process, though science has continued to play a part in the polycy process too. Regarding sea turtles the actions of other nations have been also influenced Austrlalia's behaviour, domestically and regionally.

The following chapter considers these four factors — the role of science, international influences, environmental NGO involvement, and the impact of domestic actions and actors — and examines the existing analytical treatment of these elements. As no specific marine policy analysis framework exists, discussions are drawn from related fields of public policy, marine management and environmental policy literature.

205 Bache and Evans (1999) *op. cit.* n86.

# Chapter Two — Framework of Analysis: Science, Stakeholders and the Law

## 2.1 Introduction

Concern over the harvesting of seals and whales, on both sustainability and humanitarian grounds, and later the bycatch of dolphins, triggered widespread public interest and international involvement in the management of marine wildlife. Notwithstanding that all parties agree that the elimination of the bycatch of marine wildlife is a desirable goal, the issue has strained relationships between otherwise friendly nations, changed fishing patterns and trade relations, and divided interest groups.[1] To be sure, the issue of incidental take of marine wildlife is complex, and the surrounding policy formation process reflects these complexities.

Few studies concerning the formation of marine policy have contemplated the bycatch issue. Those that have so done, considered a particular fishing practice in isolation, and tended to focus upon a single factor as the predominant causal element in related policy action. For example Joseph, in his discussion on dolphin bycatch in purse-seining operations in the ETP, concludes that the differences of opinion regarding the preferred management of the fishery stem largely from unresolved questions as to the nature and behaviours of the target species.[2] In so doing he highlights the scientific unknowns: why do dolphins and tuna swim in association, what are tuna's early life behaviours prior to association with dolphins, and how do both species interact with their surrounding ecosystem? Burke et al. also consider science as the main influence upon policy formation, here however with respect to bycatch in long pelagic driftnets.[3] He examines the role science was afforded in the policy formation process, and questions why it was not the dominant influence and why political and national concerns were allowed to capture the process and dictate the outcomes.

Several papers in the broader environmental policy field have analysed the reasons behind a nation's behaviour with regard to a particular issue, in terms of several policy

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1 Joseph, J., "The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts" (1994) 25 *Ocean Development and International Law* 1.

2 *Ibid.*

3 Burke, W., Freeburg, M. and Miles, E., "United Nations Resolutions on Driftnet Fishing: An Unsustainable Precedent for High Seas and Coastal Fisheries Management" (1994) 25 *Ocean Development and International Law* 127.

factors. In an analysis of Canadian and Australian environmental policy Boardman identifies a number of influences.[4] These include the financial and natural resources of a nation; the bureaucratic actors within national governments; government structures, in particular the division of power among levels of government in federal States; and pressures from domestic interest groups. Bergin, in his analysis of Australia's role in the Antarctic minerals convention, considers the impact of a variety of actors on the debate. In addition to public influence he holds that

> [b]ureaucratic conflicts were much in evidence and environmental groups stimulated public and political interest. The prime minister ... was to prove a decisive actor in the final decision.[5]

More recently, Friedheim analysed Japan's behaviour at the International Whaling Commission in terms of rational choice, cultural conditioning, and domestic constraints.[6]

This thesis borrows from the above approach, by distilling from the public policy and environmental policy literature four variables with which to better explain Australia and the U.S.'s behaviour towards the mitigation of bycatch of marine wildlife. Published as the theoretical basis for an article entitled "Dolphin, Albatross and Commercial Fishing: Explaining Australia's Responses to an Unpalatable Mix" by Bache and Evans, these variables are:

- international influences and the internationality of the issues;
- the profile and role of non-governmental organisations;
- the use of science in decision making; and
- domestic political influences on foreign and domestic policies and positions.[7]

These four factors are not mutually exclusive and, when phrased as hypotheses, are complementary rather than rival.[8] For example, and as illustrated by Burke et al.,[9] the role that science is afforded in decision-making may be impacted upon by the type and strength of interests at stake.[10] The influence of science in an international forum may

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4 Boardman, R., "Approaching Regimes: Australia, Canada and Environmental Policy" (1991) 26 *Australian Journal of Political Science* 446.

5 Bergin, A., "The Politics of Antarctic Minerals: The Greening of White Australia" (1991) 26 *Australian Journal of Political Science* 216 at 216.

6 Friedheim, R., "Moderation in the Pursuit of Justice: Explaining Japan's Failure in the International Whaling Negotiations" (1996) 27 *Ocean Development and International Law* 349.

7 Bache, S. and Evans, N., "Dolphin, Albatross and Commercial Fishing: Australia's Responses to an Unpalatable Mix" (1999) 23 *Marine Policy* 259.

8 Yin, R., *Case Study Research: Design and Methods* (Sage Publications, Thousand Oaks, 1994).

9 Burke et al. (1994) *op. cit.* n3.

10 Andresen, S., "Increased Public Attention: Communication and Polarization" in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989a) pp.25-45; Miles, E., "Scientific and Technological Knowledge and International Cooperation in Resource Management" in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.46-87; and Ostreng,

*continued over page*

be reduced if it is perceived to be harmful for short-term economic or broader domestic/national interests. Alternatively science may play an elevated role through its use by non-governmental organisations to arouse public interest, and persuade policy makers towards a particular — scientifically supported — viewpoint. In this way these four factors outlined below are interwoven as the key elements contributing to the issue emergence and policy consideration of marine bycatch. Combination and recombination of these factors is sought throughout the case study component of this thesis, in an attempt to determine which, if any, has been dominant in encouraging or retarding the formation of marine bycatch policies.

## 2.2 The role of science as knowledge

Science both provides the means to produce technological solutions to physical problems, and is a way of acquiring and conveying information.[11] In its first role, as the principle developer of technology, science serves a dual-purpose as the cause of many management problems, and not infrequently also as the supplier of the technology required to solve these problems.[12] Consideration of science in this thesis however is restricted to the role that scientific findings play in the formation of marine conservation policy; that is, its role as supplier of information.

Insofar as the influence of science on marine policy applies, there has developed an increasingly intelligent discourse on the subject.[13] This literature attempts to explain how scientific research is used in the raising of an issue and the formation of an appropriate policy response in both domestic and international fora. It recognises that science is not the only, nor necessarily the predominant, contributor to the information base.[14] Essentially, this material has evolved out of realisation that decision making and policy setting is ultimately a political imperative, and that recommendations from scientists are not necessarily impartial, nor do decisions always reflect the findings of

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W., "Polar Science and Politics: Close Twins or Opposite Poles in International Cooperation", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.88-114.

11 Ottesen, P. and Woodley, S., "Great Barrier Reef Marine Park - Research for Better Management", paper presented to *Science and the Management of Protected Areas* (Elsevier, Acadia, Nova Scotia, 1991) pp.37-45.

12 Underdal, A., "The Politics of Science in International Resource Management: A Summary", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.253-268.

13 See generally, Constable, A., "The Role of Science in Environmental Protection" (1991) 42 *Australian Journal of Marine and Freshwater Research* 527; and Ottesen and Woodley (1991) *op. cit.* n11.

14 Ottesen and Woodley (1991) *op. cit.* n11. Elizinga, A., "From Arrehius to Megascience: Interplay between Science and Public Decision Making" (1997) 26 *Ambio* 72 provides four models outlining various degrees of scientific and political/social influence over the closure of a scientific controversy.

the research.[15] The extent to which science impacts upon a final policy, is tempered by a variety of political and systematic constraints.[16] Even where ideal conditions for the successful translation of scientific advice into a policy position are met, policy makers may still prefer instead to satisfy other more pressing demands. The scientific message may still be ignored. By way of example, the following is a statement issued by the chairman of the Scientific Committee of the International Whaling Commission (IWC) on his resignation:

> the matter of substance is, what is the point of having a Scientific Committee if its unanimous recommendations on a matter of primary importance are treated with such contempt.[17]

There is no doubt that science does provide a crucial contribution to the formation of policies on natural resource conservation and management. Indeed Walker observes that

> environmental problems cannot (unlike some political issues such as taxation) be resolved by political debate alone. Scientific knowledge must be procured and brought to bear; without it, no policy can be evolved.[18]

As earlier suggested, science has two key avenues by which it may influence natural resources policy. Referred to by Underdal as the diagnostic and therapy roles,[19] these are the first two phases in the three tiered policy cycle, the final phase being that of implementation (for discussion on the policy cycle refer to section 2.5).[20]

The revelation of new scientific evidence — and diagnosis of a problem — may trigger the initiation of the political process with regard to a particular issue. Young notes that

> science regularly plays an important role in agenda setting by identifying and highlighting previously unknown and often cumulative problems

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15 See Andresen (1989) *op. cit.* n10. See also Miller, A., "The Role of Analytical Science in Natural Resource Decision Making" (1993) 17 *Environmental Management* 563 for a discussion on science as the predominant source of knowledge, and the view that technical rationality and its objective scientific information should claim the primary role in all decision formation. Miller too rebukes this claim and argues that science should not be provided the predominant role in policy formation because it is not itself impartial and hence can not rightly be elevated to such status.

16 Walker, K., *The Political Economy of Environmental Policy: An Australian Introduction* (New South Wales University Press, Kensington, 1994).

17 Phillip Hammond, letter of resignation, 26 May 1993, cited in Friedheim (1996) *op. cit.* n6.

18 Walker (1994) *op. cit.* n16 at 31.

19 Underdal (1989) *op. cit.* n12. See also generally Miller, M., "Regional Fishery Management Councils and the Display of Scientific Authority" (1987) 15 *Coastal Management* 309; and Andresen, S. and Ostreng, W., "Introduction", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.1-6.

20 See also Jenkins, W., *Policy Analysis: A Political and Organisational Perspective* (Martin Robertson, Oxford, 1978); Hogwood, B. and Peters, B., *Policy Dynamics* (Wheatsheaf Books, Brighton, 1983); and Howlett, M. and Ramesh, M., *Studying Public Policy: Policy Cycles and Policy Subsystems* (Oxford University Press, Oxford, 1995).

> arising from the human use of natural resources and environmental services.[21]

Secondly science may be a key influence on the content and form of the policy generated in response to environmental management needs; that is the therapy. It is in this role, at the policy interface, that science is most varied and controversial, and it is thus important to understand the relationship between scientific and political levels of problem solving. Hildreth observes that

> although the goal of making marine policymaking more scientific deserves support, there are limits to how scientific marine policymaking can become because the roles of scientists and marine policymakers are different.[22]

This difference in roles is explained in terms of science being a method designed to provide an answer to what is right or true or correct, but being unable to determine what is better. Better requires a value judgement, it involves non-science considerations such as personal values and belief systems. Hence 'better' falls into the decision making realm of the policy maker.[23] This recognises that even though an environmental problem may have a scientific answer, the ultimate solution for human society is political and expressed as policy.[24]

Wettestad and Andresen extend this concept from an observation of a difference in the abilities of science and politics, to a contention that the influence of science in the decision making process tends to be marginal when strong national and economic interests are involved.[25] As discussed policy makers must weigh scientific information against that of, say, industry and financial bodies. Young points out that when the arrangements proposed by the scientific community do not impinge on the concerns of powerful interest groups, then the implementation of advice is unlikely to be a problem.[26] Godard similarly observes that

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21 Young, O., "Science and Social Institutions: Lessons for International Resource Regimes", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.7-24 at 10.

22 Hildreth, R., "The Roles of Science in U.S. Marine Policy: Some Regional Applications" (1994) 22 *Coastal Management* 163 at 169.

23 Huffman, J., "Truth, Purpose, and Public Policy: Science and Democracy in the Search for Safety" (1991) 21 *Environmental Law* 1091.

24 Caldwell, L., "Analysis-Assessment-Decision: The Anatomy of Rational Policymaking" (1991) 9 *Impact Assessment Bulletin* 81.

25 Wettestad, J. and Andresen, S., "Science and North Sea Policy-Making: Organization and Communication", in Freestone, D. and Ijlstra, T. (ed), *The North Sea: Perspectives on Regional Environmental Co-operation* (Graham and Trotman, London, 1990) pp.111-122.

26 Young (1989) *op. cit.* n21.

> leaders and laypeople are all to willing to believe statements that are made by scientists, not because such statements are scientifically verifiable, but because they lend credence to lay attitudes or leadership positions.[27]

Where, however, groups possessing considerable political influence oppose the scientific community the situation becomes more complex.

In polarised settings, gaps in scientific knowledge have been traditionally used to justify inaction, and scientific information used to promote factional purposes. Selective use of scientific information acts to legitimise a particular position, irrespective of the merits of that science, based on the belief that the emergent policy derives its authority from scientific rationality.[28] 'Truth' becomes a secondary or auxiliary criterion.[29] Indeed science is not infrequently used *post ipso facto* as a justification for a policy position reached on other grounds.[30] As Andresen noted with respect to the partisan pressures within the IWC

> there is little room for independent and open-minded scientific discussions ... the line often does not go between scientists and decision-makers but between an alliance of scientists and diplomats from whaling and non-whaling nations respectively. ... This has nothing to do with the ability or skills of the scientists involved, as there are excellent scientists on both sides.[31]

Ottesen and Woodley have identified three factors (in addition to the influence of alternate non-science sources of knowledge discussed above) which may act to limit the contribution of science to the formation of any natural resources policy. These are:

1. a lack of comprehensive results;
2. limited consensus within the scientific community; and
3. a high degree of complexity and large number of qualifications made in the results.[32]

In terms of the marine environment, the first and third of these, in particular, are exacerbated. The immense size and the fluid nature of the environment, and the consequentially high biological and physical variability, and logistical and financial difficulties of researching a fluid environment, as well as the comparative youth of the academic disciplines engaged in marine research, create an unusually high number of scientific unknowns, and often complex and qualified results.

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27 Godard, O., "Social Decision-Making in the Context of Scientific Controversies: The Interplay of Environmental Issues, Technological Conventions and Economic Stakes" (1992) 2 *Global Environmental Change* 239 at 242.

28 Andresen and Ostreng (1989) *op. cit.* n19.

29 Underdal (1989) *op. cit.* n12.

30 Walker (1994) *op. cit.* n16.

31 Andresen (1989a) *op. cit.* n10 at 38.

32 Ottesen and Woodley (1991) *op. cit.* n11.

The potential implications of a lack of comprehensive results are discussed in much of the environmental policy literature under the broader umbrella of 'uncertainty'. It is however necessary to first limit the meaning of 'uncertainty' as it relates to discussions on science. Uncertainty is an aspect of all science. According to Wynne "ignorance is endemic to scientific knowledge, which has to reduce the framework of the known to that which is amenable to its own parochial methods and models".[33] The term uncertainty as it is used in the proceeding discussion refers to that which is unknown over and beyond that of routine scientific practice.

Uncertainty has the effect, in polarised settings, of allowing science to simultaneously validate several opposing arguments.

> Scientific uncertainties are resources that can be used to manipulate — or paralyse — policy decisions. The purpose of such interventions may be to obtain premature (often favourable) closure of a controversy, or to sustain continued controversy and uncertainty. Interventions can occur in many different ways. New research may be financed for the purpose of raising doubts about widely accepted 'facts'. Alternatively, lobbying and public relations campaigns may be undertaken to diffuse doubts about insecure scientific findings, or to call for postponement of action by underlining uncertainties and controversies.[34]

Herein is illustrated the danger that scientific analyses of environmental problems may be accepted as more factual than is actually warranted.[35] According to Andresen, if uncertainty is pronounced and it cannot be proven who is right and who is wrong then each player is able to select from the existing often diverging scientific reports or opinions available.[36] Dovers takes this further and suggests that some decision makers may not actually want improved information, as uncertainly can be useful in clouding understanding and allowing for greater control over public debate.[37]

Recognition of the problem and extent of uncertainty has led to a search for new ways of handling scientific uncertainty.[38] One approach has seen attempts to categorise uncertainty and define it in order to allow a "more structured and comparable means

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33 Wynne, B., "Uncertainty and Environmental Learning-Reconceiving Science and Policy in the Preventive Paradigm" (1992) 2 *Global Environmental Change* 111 at 115.

34 Godard (1992) *op. cit.* n27 at 242.

35 Lemons, J., "Introduction", in Lemons, J. (ed), *Scientific Uncertainty and Environmental Problem Solving* (Blackwell Science, Oxford, 1996) pp.1-11.

36 Andresen, S., "Science and Politics in the International Management of Whales" (1989) 2 *Marine Policy* 99.

37 Dovers, S., "Information, Sustainability and Policy" (1995) 2 *Australian Journal of Environmental Management* 142.

38 Dovers, S. and Handmer, J., "Ignorance, Sustainability and the Precautionary Principle: Towards an Analytical Framework", in Harding, R. and Fisher, E. (ed), *Perspectives on the Precautionary Principle* (The Federation Press, Sydney, 1999) pp.167-189.

of approaching problem definition".[39] An alternate approach has been to repackage the concept of uncertainty as a science in itself: that is the science of risk analysis. Risk, as distinct from uncertainly, is a defined structural element representing the likelihood of failure.[40]

Another approach has been through the creation of the concept of precaution. The introduction of precaution into scientific decision making has altered the balance between the scientific and the political influences on policy formation: "traditional reliance on waiting for scientific 'proof' is no longer viable".[41] The precautionary principle holds that uncertainly is not an adequate reason for postponing environmental protection measures.[42] It recognises that adequate information to support decisions will rarely if ever be achieved, and hence the validation of the precautionary approach to decision and policy making implies an acceptance of the inherent limitations of anticipatory knowledge.[43] While there are problems with the subjective and qualitative descriptors used in most definitions of the precautionary principle, with the adoption of a precautionary approach 'scientific certainty' is now no longer required to prove that a particular change has occurred.[44] Rather, even where there is no scientific evidence proving that a causal link exists, the principle of safeguarding the environment by the use of best available technology and other appropriate measures is the accepted norm. With the advent of near universal

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39 Dovers, S., "Risk, Uncertainty and Ignorance: Policy Process and Institutional Issues", paper presented at Risk and Uncertainty in Environmental Management: Proceedings of the 1995 Australian Academy of Science Fenner Conference of the Environment Canberra, 13-16 November, in Norton, T., Beer, T. and Dovers, S. (ed) (The ANU, Canberra, 1996) pp.14-32; and Funtowicz, S. and Ravetz, J., "A New Scientific Methodology for Global Environmental Issues", in Costanza, R. (ed), *Ecological Communities: The Science and Management of Sustainability* (Columbia University Press, New York, 1991) pp.137-152.

40 McDonell, G., "Risk Management, Reality and the Precautionary Principle: Coping with Decisions", in Harding, R. and Fisher, E. (ed), *Perspectives on the Precautionary Principle* (The Federation Press, Sydney, 1999) pp.190-208.

41 Dovers, S., Norton, T. and Handmer, J., "Uncertainty, Ecology, Sustainability and Policy" (1996) 5 *Biodiversity and Conservation* 1143 at 1144.

42 The precautionary principle is enunciated in, *inter alia*, the *Rio Declaration on Environment and Development* (1992) Principle 15, the *United Nations Framework on Climate Change* (1992) Article 3.3, and the *United Nations Agreement relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks* (1995) Article 6.

43 Wynne (1992) *op. cit.* n33.

44 By way of example of the qualitative nature of the definition of precaution see the underlined terms in the Council of Australian Government's 1992 *Intergovernmental Agreement on the Environment*. Clause 3.5.1 reads:

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. in the application of the precautionary principle, public and private decisions should be guided by:
(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and
(ii) an assessment of the risk-weighted consequences of various options.

See, Dovers et al. (1996) *op. cit.* n41.

acceptance of this approach to environmental management, the utility of gaps in scientific data as a stalling mechanism is likely to be reduced. As Grey notes, the precautionary principle shifts the element of doubt to the environment rather than the exploiter as previously, and moves the burden of proof onto development proponents.[45]

Ottesen and Woodley's second factor is derived from the influence that the behaviour of the scientific community has upon the role afforded science in policy creation. A lack of scientific consensus — like an absence of comprehensive results — allows for the politicization of science and its use to support particular, rather than universal, interests. Young places the blame for the failure of scientific knowledge to be applied accurately to policy formation largely upon the shoulders of the scientific community itself.

> In my judgement, the key to the effectiveness of the scientific community in this context lies less in the state of scientific knowledge about specific issues than in the ability of those scientists working on a given issue to reach consensus among themselves and to overcome the natural tendency of members of the scientific community to exhibit extreme caution in the interest of avoiding any appearance of overstating the inferences to be drawn from the evidence available.[46]

Other complications for scientists arise where politicization has been active from the outset of issue emergence. In such a scenario, members of the scientific community will not have had the chance to devise their terms of reference in an apolitical setting. Hence scientists must choose between remaining aloof from the process on the basis that science and politics do not mix, or entering the political process to attempt to effect a beneficial outcome.[47] Andresen considers the disbenefits of both options as active participation endangers the scientific credibility of findings, and the retention of a traditional elitist position may result in the omission of scientific considerations from the public debate altogether.[48] Scott et al suggest an alternate view that scientists who seek the truth will invariably become partisan to any dispute and therefore can not escape becoming captive to the controversy.[49]

In the end however — and regardless of the extent of issue polarisation and of scientists' active participation in or withdrawal from political aspects of policy

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45 Gray, J., "Statistics and the Precautionary Principle" (1990) 41 *Marine Pollution Bulletin* 174.

46 Young (1989) *op. cit.* n21 at 10.

47 *Ibid.*

48 Andersen (1989) *op. cit.* n10.

49 Scott, P., Richards, E. and Martin, B., "Captives of Controversy: The Myth of the Neutral Social Researcher in Contemporary Scientific Controversies" (1990) 15 *Science, Technology and Human Values* 474.

formation — the science delivered to the policy makers will have been politicised to the extent that it is informed by the scientists' world-views. That is, although science is often promoted as an absolute and pure form of knowledge, the beliefs, perspectives and philosophies of the source of this knowledge (that is the scientists) changes the knowledge itself.

> Concepts pertaining to natural resource views of nature, and scientific knowledge are not concepts found in nature waiting to be discovered but instead are matters of social construction and human creation.[50]

At odds with the positivist view of knowledge, the shortcomings of which have been widely debated for many years,[51] this position acknowledges that the process of generating scientific knowledge is engaged, value-bound and context determined, and recognises interpretation, translation and representation as essentially social acts.[52] Consequently, achieving a consensus depends not only upon the data generated, but also the world view of those responsible for its analysis and communication.

When polarised political settings develop, demands for a particular sort of information is called for by the various parties. This typically includes depictions of social or physical processes, their interaction with other processes, and the likely consequences of particular actions: all of which require the application of considerable scientific and/or technological expertise.[53] Epistemic communities are possible providers of such advice.

> An epistemic community is a network of professionals with recognised expertise and competence in a particular domain and an authoritative claim to policy relevant knowledge within that domain or issue area.[54]

Haas further clarifies this notion and considers an epistemic community to hold not only a shared set of normative, principled and causal beliefs, and notions of validity, but also to be a community with a common policy enterprise the basis of which is aimed at the realisation of an endpoint dictated by a shared set of values.[55] The inclusion of this final criterion — a shared set of values — explicitly recognises the impact of scientists, upon their science.

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50 Lemons (1996) *op. cit.* n35 at 7.

51 Habermas, J., *On the Logic of the Social Sciences* (MIT Press, Cambridge, Mass, 1988); and Wynne (1992) *op. cit.* n33.

52 Drinkwater, M., "Knowledge, Consciousness and Prejudice: Adaptive Agricultural Research in Zambia", in Scoones, I. and Thompson, J. (ed), *Beyond Farmer First* (Intermediate Technology Publications, London, 1994) pp.32-41; Scoones, I. and Thompson, J., "Knowledge, Power and Agriculture — Towards a Theoretical Understanding", in Scoones, I. and Thompson, J. (ed), *Beyond Farmer First* (Intermediate Technology Publications, London, 1994) pp.16-32.

53 Haas, P., "Introduction: Epistemic Communities and International Policy Coordination" (1992) 46 *International Organization* 1.

54 *Ibid* at 3.

55 *Ibid.*

Control over scientific knowledge is an important dimension of the policy forming process: even more so, perhaps, in a marine context, where data is both difficult and costly to acquire, and independant verification of results seldom available. When uncertainty and demands from policy makers for information proliferate, the members of the prevailing community become strong actors, and their data, as informed through their own worldview, becomes the predominant scientific knowledge. As such, it is important to recognise that even before an overt tempering of scientific advice with other forms of advice has occurred, the information has been subject to value judgements.[56]

The potential skewing of scientific information, and the consequential development of irrational policies, led Wettestad and Andresen to suggest that there is a need to keep these tasks of science and politics functionally separate.[57] Graham warns that if respective roles of fact and value are obscured, then decision makers cannot be held responsible for either their scientific errors or their policy judgements.[58] Others have criticised this separation however. Glantz brings to attention the possibility of conflicting views within interest groups, as well as between them, and highlights that this internal conflict is

> an aspect seldom addressed at meetings on fisheries management, because in many countries these is a separation of science and politics. The marine science community is often unable to openly challenge policy decisions once they are taken.[59]

Ottesen and Woodley consider as their third impediment to the translation of scientific advice into policy, the complexity of many scientific solutions that are offered to questions of policy.[60] Although perhaps more accurate, highly detailed information is incompatible with the task of decision making. This incompatibility is representative of the integral differences that exist between the two fields in terms of time horizons, language, fundamental loyalties and peer groups.[61]

Andresen and Ostreng suggest that the extent of scientific influence is highly dependant upon the "organisation of the relationship between science and politics," and agree that a primary reason for failing to adequately consider scientific

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56 Scoones and Thompson (1994) *op. cit.* n52.

57 Wettestad and Andresen (1990) *op. cit.* n25.

58 Graham, D., Green, L. and Roberts, M., *In Search of Safety: Chemicals and Cancer Risk*, (Cambridge, Harvard University Press, 1988).

59 Glantz, M., "Man, State, and Fisheries: An Inquiry into some Societal Constraints that Affect Fisheries Management" (1986) 17 *Ocean Development and International Law* 191 at 238.

60 Ottesen and Woodley (1991) *op. cit.* n11.

61 Bernstein, B., Thompson, B. and Smith, R., "A Combined Science and Management Framework for Developing Regional Monitoring Objectives" (1993) 21 *Coastal Management* 185.

information is the malfunctioning of the communications process between the policy makers and the scientific community.[62] The problem of communication between ecology and policy is considered by Dovers et al.. They suggest that it is not only the fault of the scientists, but that the policy makers must bear equal blame.[63] While ecologists may have a poor understanding of the policy process and the policy makers' requirements, the policy makers often fail to comprehend the scientific method and often hence, misinterpret or dismiss the conclusions reached.

Hildreth extends this idea of the determinative influence of communication, so as to include consideration of the role of the particular institutions involved. Most international and domestic bodies have procedures and personnel designed to ensure the integration of science into their decisions, thus providing the necessary means for science to influence the political process.[64] In this regard Haas found that nations with structured scientific communities were more likely to have institutional channels for the incorporation of scientists and their ideas into policy making, and that these countries were consequently more responsive to scientific advice and alarm.[65] This arrangement does not necessarily translate into logical public policy formation though. In this regard Ostreng suggests that the successful use of science depends upon the actual role the scientists are afforded by their government or agency.[66] That is, if scientists are given a lead role, then the science will be well used and cooperation at a political level achieved. If, however, scientists are allowed only a secondary role, then the science will be only disparate or poorly used.

Underdal too recognises that the method of translation between science and politics has a determinative influence on the role that science is afforded within various resource management systems.[67] He offers what could be viewed as a compromise position in his claims that what is required to remedy the communications impasse, is a two way link between basic knowledge and political decision. Wettestad and Andresen refer to this link as cooptation and go further in their suggestion that it is essential for the translation of scientific advice into policy formation.[68] Cooptation is

62 Andresen, S. and Ostreng, W., "Introduction", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.1-6.

63 Dovers et al. (1996) *op. cit.* n41.

64 Hildreth (1994) *op. cit.* n22.

65 Haas, P., "Do Regimes Matter? Epistemic Communities and Mediterranean Pollution Control" (1992b) 46 *International Organisation* 187.

66 Ostreng (1989) *op. cit.* n10.

67 Underdal (1989) *op. cit.* n12.

68 Wettestad and Andresen (1990) *op. cit.* n25.

the use of mediation for the political translation of research findings;[69] as may be fulfilled by an intermediatory 'policy analyst' situated between the scientist and the policy maker.[70] It has been suggested that the most appropriate actors to provide cooptation are the NGOs, the downside of which is that NGOs often have their own agendas, and thus themselves do not always provide a neutral and factual presentation of the science.

## 2.3 Environmental NGO and community group involvement

Environmentalism first emerged as a popular movement in the 1960s in North America,[71] and gained political and international legitimacy at the 1972 UN Conference on the Human Environment or Stockholm Convention.[72] The involvement of nonprofit non-government organizations has since become a distinctive characteristic of environmental politics.[73] In terms of the ocean, mounting public evidence of severe environmental degradation, and a growing perception that traditional national 'self-interest' within the State dominated system is overly restrictive, and that governments are hence either unable or unwilling to deal with these problems, have confirmed a role for environmental NGOs.[74]

NGOs differ dramatically in their size, composition, capabilities, history, tactics, and policy position on a range of issues. They impact upon the formation of policy both

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69 For discussion on the negative aspects of co-option see section 2.3 "Environmental NGOs and Community Group Involvement", this Chapter.

70 Caldwell (1991) *op. cit.* n24; Floistad, B., "Scientific Knowledge in the Management of Fish and Whale: Global or Regional Organizations, Single and Multi-Species Approach", in Andresen, S. and Ostreng, W. (ed), *International Resource Management: The Role of Science and Politics* (Belhaven Press, London, 1989) pp.232-250.

71 Dunlap and Mertig identify several factors that led to the emergence of the environmental movement. These are the activist culture of the 1960s, an increased scientific knowledge and media coverage, the rise in outdoor recreation and heightened connection with the environment, the widespread economic boom of post WWII and consequential reduced concern with materialism and increased consideration of quality of life issues, and the broadening of the focus of many extant NGOs to include a wider (and more publicly appealing) range of environmental issues. Dunlap, R. and Mertig, A., "The Evolution of the U.S. Environmental Movement from 1970 to 1990: An Overview" (1991) 4 *Society and Natural Resources* 209.

72 Due to the large number of NGOs in attendance at the Stockholm convention an Environment Forum was convened with the assistance of the Swedish government. This was intended to provide an outlet for their complaints and agendas. It also served as the first step in conventionalising NGO involvement in official intergovernmental environmental policy making. Caldwell, L., "Globalizing Environmentalism: Threshold of a New Phase in International Relations" (1991) 4 *Society and Natural Resources* 259.

73 Throughout this thesis the term NGO is used to refer to citizen organisations that are advancing conservation concerns rather than the wider use of the term that includes resource user or industry groups. The influence of this latter category on policy formation is considered under the heading of domestic political influences.

74 Hewison, G., "The Role of Environmental Non-Governmental Organisations", in Mensah, T. (ed), *Ocean Governance: Strategies and Approaches for the 21st Century* (The Law of the Sea Institute, Honolulu, 1996) pp.115-137.

through direct interactions with States, and also by their influence over the behaviour of collectives and shaping of public opinion.[75] While some believe it is imperative to establish dialogue with industry groups, others maintain that their *modus operandi* should be restricted to consumer boycotts.[76] Names such as Greenpeace, Friends of the Earth, WWF, and the IUCN are unfamiliar to few in western nations, as are those of grass roots movements in specific regions both North and South.

Hewison identifies five types of environmental NGOs.[77] These are:

- international organisations such as those listed above. Unique within this group is the IUCN whose membership structure includes other NGOs, governments and agencies;
- national organisations with large memberships but a focus on domestic environmental issues. Examples of these include the Sierra Club in the U.S., and the Australian Conservation Foundation;
- expertise based organisations, with small memberships and funded largely through private donations. These include policy think tanks (e.g. World Resources Institute), scientific and technical investigative bodies (e.g. Cousteau Society);
- direct action groups, such as the Sea Shepherd, who use tactics such as passive resistance and civil disobedience, with an underlying philosophy which considers all life forms to be of equal status; and
- grassroots organisations concerned with local matters. These are usually reliant upon the commitment of a small number of individuals, and although poorly funded these groups may exert considerable influence over their local/state government or federal member.

Due to their established role as representatives of the public interest and their large community memberships, as well as their longevity, and policy makers' familiarity with the organisations and individual players, it is the larger NGOs that have the greatest impact on the formation of national and foreign policy. This is even more pronounced in regard to oceanic issues where the mobilisation of small core community groups is unusual due to the lack of a not-in-my-backyard (NIMBY) reaction, and because of the considerable financial resources and physical equipment needed to

75 Wapner, P., *Environmental Activism and World Civic Politics* (State University of New York Press, New York, 1996). NGOs also play an important role in encouraging social learning. Social learning for its own sake and benefit, although laudable, is outside of the scope of this discussion as it only has an indirect effects on policy development in that it may moblise public concern on an issue. For discussion on NGOs as facilitators of social learning see Princen, T., Finger, M. and Manno, J., "Translational Linkages", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics: Linking the Local and the Global* (Routledge, London, 1994) pp.217-236.

76 Hewison (1996) *op. cit.* n74.

77 *Ibid.*

actually reach the threatened environment. Thus the larger NGOs are better equipped to handle non-coastal marine conservation. These organisations are characterised by mass financial membership of individuals (with only modest commitment to the specific body and issue), and a comparatively small core of committed employees and/or volunteers. In the 1990s they command multi-million-dollar budgets, operate on local, national and global scales, and have in their employ a corps of full-time lobbyists, lawyers and scientists.

Borrowing from social movement literature[78] the generation of support for community problems is mapped through the following process: proponents of problems coalesce into organization(s) that attempt to motivate others to work to ameliorate an identified problem. To achieve this they must gain the support of the media, funding sources, the public, and ultimately policy makers.[79] Solutions generally take the form of new government regulations and/or agencies, which signify the institutionalisation of the movement. It is at this point that environmentalism diverges from the previously observed social movement cycle. The natural history theory holds that the process continues on a downward spiral where those instrumental in the movement become absorbed into the newly created bureaucracy, in-fighting develops within the activist organisation, and the issue looses its momentum and disappears from the agenda.[80]

The role and significance of environmental NGOs has, contrary to the above theory, increased markedly in recent years, and there are now over 12,000 environmental NGOs worldwide.[81] This perpetuity of environmental NGOs may be attributed largely to their public and political legitimacy.[82] Evidence of political legitimacy is to be found internationally in statements of diplomats regarding the support of NGOs as a means by which to validate their particular policy position, and the inclusion of NGO members in official delegations — neither of which occur with, for example, security or

78 For a discussion on the applicability of social movement theory to NGOs see Finger, M., "NGOs and Transformation: Beyond Social Movement Theory", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics: Linking the Local and the Global* (Routledge, London, 1994) pp.48-68.

79 Dunlap and Mertig (1991) *op. cit.* n71.

80 This is one of several social movement theories which originates from theories of collective behaviours and action out of the Chicago school of sociology. Cyclical theories such as this are typically modeled after the labour movement, the most detailed of which is the work of Alain Touraine. See Touraine, A., *The Self-Production of Society* (Chicago, University of Chicago Press, 1981); Touraine, A., *An Analysis of Social Movements* (Cambridge, Cambridge University Press, 1981); and Touraine, A., "An introduction to the Study of Social Movements" (1985) 52 *Social Research* 749.

81 From 1983 to 1991 WWF increased its membership from, 94,000 to over one million and Greenpeace from 1985 to 1990 moved from having 1.4 million to 6.75 million members. Hewison (1996) *op. cit.* n74.

82 For a discussion on legitimacy, and the qualities of transparency and transnationalism see, Princen, T., "NGOs: Creating a Niche in Environmental Diplomacy", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics: Linking the Local and the Global* (Routledge, London, 1994) pp.29-17.

trade agreements. The publicly perceived legitimacy of NGOs is derived largely from the single-issue focus of these organisations.[83] Unlike nation States they are not required to accommodate a wide range of interests, and as such are able to maintain a no-compromise position. With respect to issues of health or quality of life, the community applauds such a position. The transnational character of many NGOs furthers this legitimacy, in that they are not bound to promoting State interests, nor be falsely confined within sovereign boundaries, when considering ecological problems. NGOs are hence able to demonstrate an interest greater than that of their national representatives, and reinforce the position that their allegiance is foremost to the ecosystem. In this way, environmental actors are able to fill a niche that other actors are ill equipped to do.[84]

As with science and knowledge, NGOs play a significant role in both the raising of an issue, and may be influential in determining the form or nature of the policy response. They are also frequently instrumental in the third major phase of the policy cycle, that of the implementation of policy.[85]

The successful placing of an issue on the agenda, as is often facilitated by NGOs, is particularly important given Caldwell's assertion that

> governments (and private corporate organisation as well) seldom act in the absence of organized public demand. Uncoordinated individual discontent, however widespread, has little effect on politicians and bureaucrats. Governments did not concede the political legitimacy of environmental quality concerns until citizen organizations with political muscle and sophistication emerged during the 1960s and grew in strength and numbers during the 1970s and 1980s.[86]

This statement alludes to the dual strategies of NGOs in bring pressure to bear on institutions once the issue has been successfully raised: firstly through the generation of public support and hence political pressure; and secondly, and perhaps more importantly, by gaining direct access to negotiations.

Non-governmental organisations are able to gain direct access to the policy process due to their status as independant actors, and their possession of their own, often unique, bargaining assets. Work on the means by which NGOs influence environmental policy formation and outcomes, shows their bargaining assets to be fourfold. They have access to considerable funds; they are able to command media attention and generally involve the public; they lobby political decision makers and provide

83 *Ibid.*

84 *Ibid.*

85 Hewison (1996) *op. cit.* n74.

86 Caldwell (1991) *op. cit.* n72, at 262.

alternative forums for communication; and finally NGOs are providers of information and 'earth-centred perspectives' to decision choices.[87] Moreover, flexible alliances among NGOs endow them with greater persuasive ability so as to convince policy makers of their legitimate role as representatives of a diverse range of peoples and nations.[88]

Although not wielding traditional power through the possession of land or military strength, NGOs are, as suggested, often endowed with considerable economic leverage. For example, in the decade from the early 1980s to 1990s the WWF contributed $US62.5 million to grassroots projects worldwide.[89] And this economic leverage is increasing, from 1983 to 1991 WWF's revenue grew from $US9 million to $US33 million, and Greenpeace's rose from $US24 million in 1985 to $US100 million by 1990.[90] The resources of these organizations means that it is often difficult for States to ignore or dismiss them. Furthermore, multilateral agencies are increasingly channeling development assistance funds through major NGOs. This economic linkage, and financial command, provides NGOs with significant influence.[91]

Media coverage of issues is of primary importance to NGOs. A public profile, and hence an assumed command of some influence over public opinions, gives NGOs a powerful bargaining asset with which to negotiate with policy makers. The media themselves and NGOs have a symbiotic relationship, wherein a regular exchange of information in turn for publicity, occurs. Environmental organizations rely heavily upon mass media to help bring environmental concerns to the public agenda, and, in turn, the media benefits from a (generally) continuous, reliable and legitimate source of 'newsworthy' information.[92]

Although the media is recognised as a predominant influence on public opinion, an extreme constructionist view, whereby the global ensemble of problems is a creation of the media, has very shaky foundations.[93] Although there is no doubt that the media affects public opinion, the links are complex and often difficult to demonstrate. The most widely accepted media impact is thought to be on agenda setting and issue

87 Princen (1994) *op. cit.* n82.

88 Hewison (1996) *op. cit.* n74.

89 World Wide Fund for Nature, *WWF Annual Report 1991* (World Wide Fund for Nature, Gland, 1991).

90 Hewison (1996) *op. cit.* n74.

91 Princen (1994) *op. cit.* n82.

92 Underdal (1989) *op. cit.* n12.

93 Mazur, A. and Lee, J., "Sounding the Global Alarm: Environmental Issues in the US National News" (1993) 23 *Social Studies of Science* 681.

framing.[94] That is, the press is effective at directing public attention towards specific policy concerns, although not so effective in determining the nature of opinion with regard to those issues.[95] Having raised an issue to salience, the continued prominence of the issue in the public mind depends less upon the substance of reports than upon the quantity of coverage the issue subsequently receives.[96] Indeed, many problems that do receive heavy news coverage, often do so not by virtue of the severity of the problem, but rather, through the purposeful manipulation of reporters by activists: news requires fuel to sustain coverage, and with respect to environmental issues this fuel comes often from NGOs serving as either sources or intermediatories.

The third of NGOs' assets allowing them influence over environmental policy making is their ability to network and lobby, and their provision of alternative forums for informal communications. The breadth of NGO liaisons has been characterised by one author as follows.

> [Environmental groups] do not trust governments, or governments alone to do the right thing and thus take direct action with their own governments, non-governmental organisations, other governments, corporations, and individual citizens of other states. They operate on a transnational basis.[97]

Internationally NGOs have had an unofficial, but organised, presence at every United Nations environment related conference since Stockholm in 1972. Although the links between these unofficial convenings and the actions of official national representatives may not be visible during these occasions, its potential power is captured in the following example.

> With no major pro-whaling interest groups or pressure groups ... the foreign officials of the major developed states have no incentive to try to resist the ardent push of the antiwhaling forces ... whatever analytical or scientific understanding of the whaling issue a developed states' government official might have personally, he or she can throw it away and concede to the antiwhaling animal rights segment of the strong environmental forces that have arisen in recent years. The official will not lose political capital, nor does he or she have to worry about enormous financial capital outlays to do something about the problem.[98]

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94 Shelley, P., "The Role of Citizen Groups in Environmental Issues" (1993) 36 *Oceanus* 77.

95 Mazur and Lee (1993) *op. cit.* n93.

96 Note that it is the quantity rather than the content of coverage that is deemed to be the determining factor in the public response to an issue. Mazur and Lee explain this in that "the typical reader or viewer does not give undivided attention to news reports, especially on technical matters, and rarely absorbs them in their entirety. ... Impressions of a news report may be formed from scanning its headlines, an accompanying picture and its caption .... We therefore distinguish between the substantiative content of a story, which should be intelligible to a careful reader or viewer, an the simple image that most readers or listeners actually absorb from the story." Mazur and Lee (1993) *op. cit.* n93 at 683.

97 Friedheim (1996) *op. cit.* n6 at 358.

98 *Ibid* at 358.

Further legitimising this presence, the role of NGOs has increasingly been formally recognised and incorporated into the institutional structures of a number of international organisations.[99]

Domestically, environmental NGOs pressure their governments to comply with or take a particular positions on certain resolutions, utilising both official communications and more non-conventional means of conveying their messages. Electoral systems of proportional representation enable small parties to elect representatives to state/local and national legislative bodies. The result has been the emergence of multi-party politics, in which relatively minor parties may hold a balance of power, or form a coalition government with one of the more established political parties.[100] A strict two party system precludes such a development, and in such situations environmental bodies have favoured or fought individual politicians on their environmental records, regardless of party affiliation.

The last of the four factors providing NGOs with increased legitimacy and influence is their role as providers of information. Underdal discusses the impact of NGOs on the conveyance and role of scientific research and muses that:

> some [non-governmental] organizations have contributed substantially to translating findings and hypotheses from scientific research into premises or even demands for new policy proposals. Complaints have been voiced about some of these translations. And, admittedly, the game of public campaigns played by several of the main non-governmental organizations is one where the fine print of scientific reports is unlikely to be preserved. None the less, some of these organisations today serve as important elements of an early-warning system, amplifying whatever cause for environmental concern that can be found in publications from scientific research.[101]

Some NGOs have broadened their science based activities from the translation of information, to the conduct of scientific research themselves. Princen suggests that this gives some NGOs a distinct advantage over other organisations and States, as those

> with prepared position papers and carefully worded proposals for agreement will have influence beyond their structural position in the negotiations. In this regard, an NGO representative can sit comparably — if not equally — with a representative of a superpower or multinational corporation. Moreover, if they have additional assets to offer — expertise, grass-roots support, a transnational base or network ... — they carry even more weight; they can actually bargain.[102]

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99 These include the International Whaling Commission, the International Maritime Organisation and the CITES Secretariat. Hewison (1996) *op. cit.* n74.

100 Caldwell (1991) *op. cit.* n72.

101 Underdal (1989) *op. cit.* n12 at 264.

102 Princen (1994) *op. cit.* n82 at 37.

Although publicity, political pressure and negotiations have been the principle strategies of NGOs, an ultimate goal of NGOs in Western nations has been to institutionalise their objectives into laws.[103] Similarly in the international arena, and although the introduction of NGO conferences operating parallel to those of nation states has been an important development in the legitimation of NGOs, possibly more significant are those NGO activities aimed directly at shaping international arrangements and institutions.[104] Conversion of soft agreements into hard law provides these organisations with the tool of litigation as a means by which to force the implementation of environmental policies.

Following the social movement issue cycle theory, however, the creation of new bureaucracies to administer these laws may result in the co-option of NGO members into the newly formed regimes and authorities. Co-option or incorporation, occurs when an interest group is included in the administrative framework (often in the form of an advisory committee) of the authority responsible for the policy formation or implementation. This not only provides NGOs close proximity to decision-makers, but is likely also to result in a more broadly accepted policy outcome. While often beneficial to all interest and sought after by NGOs, co-option may actually be used by agencies or governments to reduce the level of interest group involvement in the policy process.[105] Co-option may be intended to remove an interest group from the public arena, hereby reducing the public opposition to a particular policy, or to placate a vocal NGO with token involvement in an effort to reduce the level of conflict.[106] Alternatively a committee may be constructed not to provide advice, but rather, in order to delay the process, or to educate appointed members of the difficulties the decision-making authority faces.

The co-option of members from one NGO but not another may also serve decision-makers by generating conflict between previously allied organisations, and hence weakening their common stance. Conflicts between NGOs are however more commonly a result of their differing ideological bases: conservationist or preservationist, realist or fundamentalist. The preservationist view focuses on individual members of a species and their right to live without human interference. On the other hand, conservationists are said to look at aggregates of organisms as resources which should be sustainably managed. This age old division on occasion hampers the operation of environmental

103 Caldwell (1991) *op. cit.* n72.

104 Princen, T. and Finger, M., "Introduction", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics* (Routledge, London, 1994).

105 Haward, M., *Institutions, Interest Groups and Marine Resources Policy* (unpublished, Masters of Arts dissertation, University of Tasmania, 1986).

106 *Ibid.*

based NGOs. The open airing of these discordant views in policy discussions can potentially limit the effectiveness of those striving to safeguard the environment from unnecessary harm. In public debates where such divisions become apparent, each side may level accusations at the other of, for example, distorting facts, failing to recognise economic or political reality, or imperilling public safety.[107] And where both succeed to a limited extent and a single statute contains both perspectives, there is the potential for a conflicting mandate with regard to the management policy contained therein.[108]

## 2.4 Internationality and the international influence

International regimes vary considerably according to their scope, and form, the level of adherence, and the instruments through which they are given effect, as well as their administrative arrangements, budgets and resources. They range from short term bilateral accords to multilateral treaties. Examples of international regimes concerning high seas fishing operations include the Rio Earth Summit (1992), the FAO Fisheries Code of Conduct (1995),[109] and the United Nations Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (1995) (UNIA or the Implementing Agreement).[110]

Within this framework of international governance arrangements nation States are unable to function as independent, fully autonomous actors. The international system exercises a variety of restraints upon the behaviour of nation States, and conversely regimes are able to be directed or exploited by governments or interest groups to further their own agendas.[111]

> Countries differ considerably in their approaches to regimes. These arrangements likewise have a diversity of effects on the politics, governmental structures, policy processes, and public policy outcomes, of nations.[112]

Ordinary principles of international law limit the prescriptive authority of nation States to the jurisdiction of their own territory and the activities of their own nationals, thus providing countries a certain freedom of manoveour. The basic theory behind this

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107 Princen and Finger (1994) *op. cit.* n104.

108 Kubasek, N., Browne, N.M., Young, M. and Hiers, W., "Protecting Marine Mammals: Time for a New Approach" (1995) 13 *Journal of Environmental Law* 1.

109 It is worth noting that, though this is a voluntary compliance agreement, it is being widely included at a national policy level. For example Canada is preparing legislation in which is included ideas enunciated in the Code.

110 UNIA requires 30 ratifications to become active. As of November 1999, it has 26 ratifications and is expected to receive its 30th ratification early 2000.

111 Boardman (1991) *op. cit.* n4.

112 *Ibid* at 448.

is that it subjects most people to an exclusive jurisdiction, and hence clarifies legal obligations, and limits the potential for conflicts over sovereign authority that can lead to the disruption of world order. Problems arise with respect to common heritage precisely because no such clear jurisdiction exists.[113]

Given this situation nation States may perceive a clear deficiency in some aspect of the international governance of a global common. It is, however, well recognised that "in the field of international environmental diplomacy, progressive policies of individual nations can serve as a catalyst to global awareness and consensus."[114] Thus mobilisation of change does not necessarily require direct action by one State against another. Rather, it has been shown that historically

> [e]nvironmental progress in one jurisdiction has often created a 'follow-the-leader' dynamic in which others are pressured to conform to the higher standard. This higher standard also serves very often to provide policymakers with palpable evidence of what is possible and practical.[115]

Where such a domino effect does not occur, there are two options by which a nation State may actively work towards the internationalisation of a domestic goal. A country can attempt to negotiate a settlement or treaty with other States so as to create an acceptable international benchmark, or else they can try to impose their will upon other nations through unilateral action, commonly either by military force or trade sanctions.[116]

Negotiated multilateral arrangements have many supporters who contend that effective and enforceable conservation will be better served by cooperation than confrontation.[117] Where States refuse to relinquish authority to an international institution, a position termed by Finlayson and Zacher as sovereignty norms, governments will seek to maintain as much control as possible over the decision making process within the issue area.[118] This does not preclude the creation of a regime, although such is likely to rely more upon institutional bargaining that long-term common interests, and its utility as a measure for ensuring environmental security is of

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113 See O'Connell, D., *International Law (2 Ed)* (Stevens and Sons, London, 1970) at 455-460 for debate over high seas fisheries in this context.

114 Kibel, P., "Justice for the Sea Turtle: Marine Conservation and the Court of International Trade" (1996) 15 *Journal of Environmental Law* 57 at 61.

115 Shrybman, S., "Trading Away the Environment" (1991-92) Winter *World Policy Journal* 93 at 105.

116 Discussed by Elliott as either imposed or negotiated regimes. Elliott, L., *International Environmental Politics: Protecting the Antarctic* (MacMillan Press, London, 1994).

117 Spracker, S. and Lundsgaard, D., "Dolphins and Tuna: Renewed Attention on the Future of Free Trade and Protection of the Environment" (1993) 18 *Colombia Journal of Environmental Law* 385.

118 Finlayson, J. and Zacher, M., "The GATT and the Regulation of Trade Barriers: Regime Dynamics and Functions" (1981) 35 *International Organisation* 561.

considerable doubt.[119] The extent to which a State will be able to maintain its sovereignty will depend upon the innate features of the State, the severity of international pressures, and the nature of the issue.[120]

Recognition of the interdependence of nations inclines States to maximise their interests through collaboration.[121] Cooperation as is witnessed in negotiated regimes does not, however, imply a harmony of interests.[122] Payoffs, incentives and moral suasion may have been instrumental, rather than any commonality of goals, in reaching a closure. It is in this area that the contrast between imposed and negotiated regimes becomes somewhat blurred. An imposed regime occurs in the presence of a hegemonic power intent on furthering either their own (coercive) or global (benign) interests, through the creation of an international regime. Where a hegemonic actor is participating in a bargaining process however, it may be difficult to ascertain whether they engaged in hegemonic behaviour, or constrained to act only as a bargaining power.[123]

Considerable attention must also be paid to middle power leadership, and its role in the creation of international regimes. Middle powers emphasise the politics of persuasion and negotiation rather than coercion, they seek to employ networks of influence and to build coalitions of support, they are likely to engage in niche diplomacy.[124]

New goals and principles, which emerge from interactions at the international level, can influence national ocean governance systems, as domestic regimes are modified to comply therewith. Knecht posits that the influence of internationally agreed goals on nations' domestic frameworks is likely only to increase in the future.[125]

Moreover, even if not signatory to a particular treaty, a littoral State's exploitation of its marine resources may also be influenced somewhat by such agreements. In his study of Canadian federalism and fisheries management Fairley comments that

> [i]n this [domestic] domain the international public law of the ocean also governs; it demands both understanding and an adequate appreciation

119 Elliott (1994) *op. cit.* n116.

120 Howlett and Ramesh (1995) *op. cit.* n20.

121 Finlayson and Zacher (1981) *op. cit.* n118.

122 Elliott (1994) *op. cit.* n116.

123 *Ibid.*

124 Evans, G. and Grant, B., *Australia's Foreign Policy in the World of the 1990s* (Melbourne University Press, Melbourne, 1991).

125 Knecht, R., "Essay: Emerging International Goals and Principles and Their Influences on National Ocean Governance" (1994) 22 *Coastal Management* 177.

> before the domestic constitutional issues can be properly analysed and decided. More simply, the domestic issue is not merely domestic.[126]

Furthermore, a fishery will most certainly be affected by a range of factors that originate in other nations.[127] For example, the demand for the fish product abroad (as effected by market demands, competition from other fisheries, and international commodity prices for fish products) will unavoidably effect a nation's fishing effort.

Boardman identifies several factors that may form a framework for the investigation of State-regime relations. These factors include the physical attributes of the milieu of a country;[128] the maturity of a regime as determined by the international familiarity with an issue; the attitude of the State towards the utility of intergovernmental organisations; and the budgetary, personnel and information resources available to a State.[129]

Regardless of the preferability of a negotiated settlement there are a number of problems which may arise in multilateral negotiations, and which may act to impede or even halt the process. If one or more parties dissents outright, it leaves only the options of either negotiating around a new set of boundaries, or else excluding the dissenting parties. Where compromise is required to keep the issue and all parties at the table, individual nations must undertake domestic re-evaluation and re-formation of their policy stance. This may not be possible to the extent required, and moreover, by negotiating down to the limit of the dissenting nation the desired outcome may not be achieved. Alternatively, by excluding a nation the harmful practice which is being sought to be curtailed may continue unabated. This option of exclusion also creates the problem of the free rider nation.[130] This is both an economic and environmental hazard, where one nation who refused to participate reaps the benefits of the other nations' efforts without contributing to the solution. Not only does the free rider nation not

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126 Fairley, H., "Canadian Federalism, Fisheries and the Constitution: External Constraints on Internal Ordering" (1980) 12 *Ottawa Law Review* 257 at 290.

127 Other such factors include:

- the readiness of other nations to engage in the transfer of technology, and the need for foreign exchange, and loans from international development agencies; and
- side-issues – that is, those aspects which do not appear to directly relate to fisheries management, for example the reaction of the international community to the seizure of foreign fishing vessels, and to the expropriation of foreign investment to sectors other than fishing.

Glantz (1986) *op. cit.* n59.

128 Physical attributes according to Boardman (1991) include not only the geography and natural resources, but also factors such as the spatial distribution of economic sectors and the transport networks. Boardman (1991) *op. cit.* n4.

129 *Ibid.*

130 Walker discusses this scenario in terms of 'n' (greater than 2) participants. He surmises that in such a situation the benefits of participation to all n parties are less obvious, and concludes that consequently n-person negotiations rapidly generate free riders. Walker (1994) *op. cit.* n16.

have to contribute directly to the preservation of the resource, but as it has less controls on the related industry, the free rider nation is able to manufacture at a lower cost, and thus charge less for the end product, gaining a competitive advantage over the remaining — compliant — nations. In such situations multilateral sanctions or unilateral embargos may result.

The use of unilateral arrangements is criticised as being a scenario wherein powerful nations provide prescriptive authority over other nations, or else as a system of piecemeal multilateral regulations. More broadly the issue can be considered in terms of a trade-environment trade-off. Opinions with regard hereto generally fall into one of two categories.

> Free trade advocates feel that allowing the market to set prices through the opening of national economies and unhindered trade will help strengthen the economies of developing countries. They argue that environmental degradation is linked to poverty; thus, as developing countries get richer through free trade, the world environment will improve. On the other side of the debate, environmentalists advocate the use of trade restrictions to induce enforcement of environmental protection laws.[131]

A position that economic growth is good for the environment relies upon the proposition that an empirical relationship exists between per capita income and environmental quality.[132] This is often conceptually represented as an environment kuznets curve, an inverted U-shaped relation between environmental degradation and per capita income. There are however several problems with this model. Firstly a single-equation reduced form model does not allow for the identification of structural equations or the consideration of different influences.[133] Secondly, in terms of expanding this model to justify free global trade, the historical experiences of some economies can not necessarily be extrapolated to the future of the global economy.[134] When poorer nations attempt to employ the same levels of environmental regulation as developed nations have, they will face a more difficult task due to the absence of other nations to deploy the environmentally deleterious tasks to. Indeed, highlighted in the 1992 World Development Report, is that economic growth alone is not sufficient to

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131 Hurwitz, D., "Fishing for Compromises through NAFTA and Environmental Dispute-Settlement: The Tuna-Dolphin Controversy" (1995) 35 *Natural Resources Journal* 501 at 502.

132 Arrow, K., Bolin, B., Costanza, R., Dasgupta, P., Folke, C., Holling, S., Jansson, B.-O., Levin, S., Maler, K.-G., Perrings, C. and Pimental, D., "Economic Growth, Carrying Capacity, and the Environment" (1995) 268 *Science* 520.

133 Stern, D., Common, M. and Barbier, E., "Economic Growth and Environmental Degredation: The Environmental Kuznets Curve and Sustainable Development" (1996) 24 *World Development* 1151.

134 *Ibid.*

reverse environmental degradation, and that, although not a panacea in itself, direct regulation via protective policies is also needed.[135]

Brack outlines the positive and negative effects of trade liberalisation upon the environment.[136] The disbenefits include the potential undermining of environmental laws by free trade agreements, the competitive advantage provided to nations with more lax environmental laws in an open market situation, and the link between high economic growth (as encouraged by trade liberalisation) and unsustainable consumption of natural resources. In favour of free trade as an environmental tool are the arguments which hold that it supports specialisation and hence maximum output in relation to the resources consumed, and encourages the spread of new and (presumably) environmentally friendly technology. Perhaps the most persuasive argument though, is one offered in favour of unilateral actions. It holds that (much as the 'follow-the-leader' dynamic between individual nations) trade embargos and sanctions by one nation upon another often have a catalytic effect upon the development of multilateral management regimes.[137]

## 2.5 Domestic political influences

The domestic political influences within a State have an obvious role to play in the formation of national policies. A variety of players may be involved: Allison highlights the involvement of bureaucrats, politicians, and industry interests: and Miller and Broches refer to the role of agencies, legislators and interest groups.[138] Boardman too refers to the importance of the bureaucratic actors within the national government especially in relation to scientific and technological issues. He adds to the list state and territory government actors, and highlights the role of government structures, in particular the division of power between levels of government in federal polities.[139] All these players have a direct influence upon both internal and domestic foreign policies, although the impact of some actors or influences upon the process of international negotiations is not readily apparent.

Game theory and bargaining provide important insight into the influence of politics at both the domestic and international levels. They attempt to explain the structure of

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135 IBRD, *World Development Report 1992: Development and the Environment* (Oxford University Press, New York, 1992).

136 Brack, D., "Balancing Trade and the Environment" (1995) 71 *International Affairs* 497.

137 Spracker and Lundsgaard (1993) *op. cit.* n117.

138 Allison, G., *Essence of Decision: Explaining the Cuban Missile Crisis*, (Little, Brown and Company, Boston, 1971); and Miller, M.L. and Broches, C., "Congress, Issue Networks and Marine Affairs" (1989) 17 *Coastal Management* 263.

139 Boardman (1991) *op. cit.* n4.

interactions among political actors where choices are limited by the anticipated payoffs for certain courses of action.[140] Bargaining analysis is based on an assumption that parties see some advantage in entering into negotiations. It allows for the consideration of the interplay between actors, and the effect of external forces on altering the scope of the bargain. The development of intergovernmental agreements, accommodating sundry interests, can also be seen as taking the form of moves within a game, where each set of actors attempts to maximise their return from the bargaining table.[141]

Two theories contributing towards the understanding of a nation State's behaviour at the bargaining table build upon the earlier model of rational choice.[142] The rational choice theory denotes the belief that States will act in a manner that will optimise the benefits they accrue, and if, despite their best tactical efforts, they can not arrange a better outcome, then they will withdraw from the negotiations and maintain the status quo. The first of Freidheim's theories is that of cultural moulding, which accepts the rational choice model but adds to it the variables of cultural and individual behaviour or personality.[143] In regard to the influences of the individual upon policy development, Joyner notes the need for a sense of fairmindedness, integrity and competence of leaders in negotiating consensus agreements.[144] Leadership is not restricted to state actors, and may take a variety of forms. Structural leadership is commonly evidenced in bargaining activities, entrepreneurial leadership in the proposal of options and in brokering the interest of other actors, and intellectual leadership in the use of ideas.[145]

The second theory considers the impact of domestic constraints upon the negotiator, and emphasises the importance of the structure of the domestic system. Domestic constraints may be conceptualised as a two level game, where the negotiator bargains at both the domestic and the international levels.[146] Domestic level negotiations are

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140 Walker (1994) *op. cit.* n16.

141 Peterson, M., "Whalers, Cetologists, Environmentalists, and the International Management of Whaling" (1992) 46 *International Organization* 147.

142 Freidheim (1996) *op. cit.* n6.

143 See also Haggard, S. and Simmons, B., "Theories of International Regimes" (1987) 41 *International Organization* 491.

144 Joyner, C., "The United States and the New Law of the Sea" (1996) 27 *Ocean Development and International Law* 41.

145 Young, O., "The Politics of International Regime Formation: Managing Natural Resources and the Environment" (1989) 43 *International Organisation* 349; and Young, O., "Political Leadership and Regime Formation: The Emergence of International Institutions in International Society" (1991) 45 *International Organisation* 281.

146 See also Putnam, R., "Diplomacy and Domestic Politics: The Logic of Two-Level Games" (1988) 42 *International Organization* 426; Iida, K., "When and How do Domestic Constraints Matter?" (1993) 37 *Journal of Conflict Resolution* 403; and Mo, J., "The Logic of Two-Level Games with Endogenous Domestic Coalitions" (1994) 38 *Journal of Conflict Resolution* 402.

concerned with arriving at a conclusion which will be acceptable to all stakeholders, and thus able to be implemented domestically. To recall, the domestic actors are federal politicians and bureaucrats, industry representatives, and decentralised state and territory governments. Community and non-governmental organisations are another actor that contributes to domestic politics. In the environmental and resource arena, these however (as earlier outlined) have influence beyond that of a domestic player, and as such have been considered as a separate, significant influence upon policy formation.

Political and bureaucratic agendas are a major factor in explaining the emergence of, and support provided for, particular policies. In spite of often being overlooked in earlier analyses of both multi-nation agreements and unilateral conservation actions, the domestic political situation and agenda has increasingly been acknowledged as an influence on international, as well as domestic, behaviour.[147]

Moreover, in particular in pluralist political systems, where a range of interests and pressures are continually impacting upon the government, additional factors that do not obviously relate to the issue area may also impact upon the decisions of political actors. Significant events, such as elections, worker strikes, public sector downsizing, policies towards exchange rates, or government nationalisation of foreign investment, are of potential relevance. For example, as politicians seek re-election, they will be acutely sensitive to the demands of the electorate and select those policies most congruent with public opinion.[148] Brokerage politics (the purchasing of political support by investment in marginal electorates) is not uncommon around election times and may elevate a particular issue to a position above that it would otherwise assume. A desire to capitalise on potential electoral support also provides a strong stimuli to resort to symbolic politics, where a strong popular reaction to symbols (as is often readily available in the environmental issue area) can provide substantial political gain from only a minimal outlay of resources.[149]

In addition to these significant events, there are political pressures with which leaders must contend that may also have an impact upon the shape of a policy. For example, a lack of media support, or opposition from colleagues or other political factions or parties, or upper house or legislature rejection of a Bill, may retard or generally alter policy positions. Bargaining may occur between the cabinet or the executive branch and Congressional members or minor senate parties, thus changing the nature or focus of

147 Bergin (1991) *op. cit.* n5.

148 *Ibid.*

149 Walker (1994) *op. cit.* n16.

the original policy. Acknowledgment of these factors takes into consideration that a particular focus sector is only one small part of a larger political system, and that the broader context must be realised.[150] It also means that a government's ability to coordinate policy, or its capacity to govern, depends upon its relative power. In weak States the leader is often reactive and quick solutions without overall policy directions are frequently sought; as compared to stronger states where a more anticipatory approach allows for the strategic formation of policies, and the preempting of crisis events.[151]

In both the U.S. and Australian systems of governance — where the legal system provides broad discretion in the administration of laws and delegates a significant role to subsidiary legislation — it is not only the elected politicians that have considerable control over the direction and goals of any specific policy field, but also appointed individuals such as key bureaucratic actors.[152] In this regard, agencies and senior government executives have a duty not only to implement the policies of the government, but also to represent their constituents and to fend off jurisdictional encroachment from other sectors.[153] Bureaucratic influence is likely to be particularly pronounced where agency or departmental perceptions of a situation, and its appropriate remedy, are significantly different from government policy. In such a scenario both the letter and the spirit of a policy may be frustrated, most commonly through the subversion of a government's regulatory capacity.[154] On the other hand, a commonality of interest between bureaucracy and government is likely to lead to enhanced attention to an issue area. Once again, and as with political players, bureaucratic decisions or actions may also be influenced by individual beliefs and situational constraints such as ethical rules, organisational patriotism or rivalry, a need to generate revenue or a shortage of resources, pressures towards proper social behaviours, and personal promotion criteria.[155]

The structure of the bureaucracy, and diffusion or concentration of power, is also significant, especially at the sectoral level.[156] In the marine context deciphering an

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150 Ross, S., "Organizing for Marine Policy: Some Views from Organization Theory", in Hool, F., Friedheim, R. and Hennessey, T. (ed), *Making Ocean Policy - The Politics of Government Organisation and Management* (Westview Press, Boulder, 1981) pp.91-111.

151 Walker (1994) *op. cit.* n16.

152 Knecht (1994) ) *op. cit.* n125.

153 O'Leary, R. and Wise, C., "Public Managers, Judges, and Legislators: Redefining the "New Partnership"" (1991) 51 *Public Administration Review* 316.

154 Walker (1994) *op. cit.* n16.

155 *Ibid*; and Ross (1981) *op. cit.* n150.

156 Atkinson, M. and Coleman, W., "Strong States and Weak States: Sectoral Policy Networks in Advanced Capitalist Economies" (1989) 19 *British Journal of Political Science* 47.

overarching bureaucratic position is often a difficult exercise given the potentially large set of different agencies and departments — with vastly different philosophies, and a mixed record of interagency cooperation — that are entrusted with various aspects of policy formation.[157] Interagency differences are, at times, so pronounced that arrival at a single policy position is simply not possible. In relation to fisheries the claim of an arrangement whereby the 'fox is guarding the henhouse' has been leveled at both the U.S. and Australian lead agencies.[158] In this regard, the capture thesis holds that as bureaucrats form close relationships and identify with the industry they purport to regulate, so they come to see the issue in the same way and to adopt the same policy solution position.

Often omitted, by and large due to its uncertain and controversial role within the policy making arena, is the third arm of government — the judiciary. Claims of an expanded role of judges in some jurisdictions, has led to considerable public discussion regarding the trend towards a more activist judiciary.[159] Judges are however, increasingly being recognised as having a valid role to play in formation of marine and other policy.[160] Although cases, when they come to court for resolution, are decided on legal grounds, they are by no means apolitical. Rather they reflect the use of legal methods by the courts for political purpose — the judiciary acts as a possible veto point which constrains what legislatures and bureaucrats can do in policy matters.[161] Grounds of review differ considerably across nations but tend to involve questions of constitutionality, principles of natural justice, and errors of laws or executive acts that exceed legal limits. Repeated court intervention in a policy area can lead to one of two scenarios: the implementation by the bureaucracy of a previous eschewed policy or, at the other end of the scale, a complete rejection of administrative responsibility in an

157 Miller and Broches (1989) *op. cit.* n138.

158 For example, and while not necessarily espousing these views, the scenario was discussed in Young, P. and Wallace, J., "An Evaluation of the Balance of Power between Government, Industry and Science in Managing Australia's Federal Fisheries (Setting the Fox to Guard the Henhouse)", paper presented at *ICES Annual Science Conference, St John's, Canada* (International Council for the Exploration of the Sea, Copenhagen, 1994).

159 "Courting a proper, mature relationship", *The Australian*, 3 September 1997; and "The jury is out", *The Weekend Australian*, 24 January 1998.

Kirby discusses this trend in four countries: India, the United Kingdom, the United States of America and Australia. Kirby, M., "Judicial Activism" (1997) 27 *Western Australian Law Review* 1.

160 Broches, C. and Miller, M.L., "Public Law Litigation and Marine Affairs: The Boldt Decision" (1985) 13 *Coastal Zone Management Journal* 99.

161 Galligan, B., *Politics of the High Court: A Study of the Judicial Branch of Government in Australia* (University of Queensland Press, St Lucia, 1987).

issue area.[162] Regardless of the ultimate outcome however, the courts' outputs or decisions form a significant part of the political process.[163]

In nations ruled under a system of federal governance the sub-national states also have a significant influence over the development of policies. The influence of these sub-national governments over federal policy formation depends upon a range of factors included in which are: the issue area and the constitutional division of powers in respect thereto; the degree of state and federal interest in a particular issue; the ruling party's federalist philosophy; how strong a coalition exists between the states; and the individual personalities involved. Consequently patterns of state/federal relations at any one phase — contrary to popular theories which align distinctive trends with particular periods — do not conform across sectors to a single dominant model.[164] In relation specifically to the marine policy sub sector, very different patterns have tended to prevail across coastal zone management, fisheries governance, marine mammal and endangered species protection, and offshore oil development.[165]

In both the U.S. and Australia a limited number of specific powers are enumerated for the federal levels of government and a remainder are to be exercised concurrently, while unspecified residual powers remain with the states. Notwithstanding the provision that, should conflict between state and federal laws arise, the federal legislature's laws prevail,[166] this arrangement has resulted in considerable constitutional ambiguity in both Australia and the U.S.. One consequence of this is the constant need for renegotiation of the rules that make up the division of powers between federal/state governments.

The substance of the split of powers in the two nations is remarkably similar. In the U.S., Congressional powers are enumerated in Article I, Section 8 and herein is provided an unlimited ability to levy and collect taxes for the general welfare of the nation. Similar provisions exist in Australia, where there is an allowance for the

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162 Diver, C., "The Judge as Political Powerbroker: Superintending Structural Change in Public Institutions" (1979) 65 *Virginia Law Review* 43.

163 Galligan (1987) *op. cit.* n161.

164 Wright is a key proponent of the intergovernmental relations as being homogenous across particular periods of time, wherein political issues, participants perceptions, and intergovernmental relations mechanisms set it apart from surrounding phases. See Wright, D., *Understanding Intergovernmental Relations* (Brooks/Cole Publishing Co., Monuterey, 1982). The counter-argument, that state/federal relations differ depending on the issue area, is convincingly argued in Cicin-Sain, B., "Ocean Resources and Intergovernmental Relations: An Analysis of the Patterns", in M. Silva (ed), *Ocean Resources and U.S. Intergovernmental Relations in the 1980s* (Westview Press, Boulder, 1986) pp.241-261. See also Walker (1994) *op. cit.* n16.

165 Cicin-Sain (1986) *op. cit.* n164.

166 *The Constitution of the United States of America*, Art VI; *The Constitution of the Commonwealth of Australia*, section 109.

Commonwealth parliament to make laws with respect to external affairs, corporations and trade and commerce.[167] In effect these controls provide the federal governments with the ability to undertake any actions they deem worthy of national attention, a position supported by the historically broad interpretation of federal powers by the courts.[168]

This open ended interpretation of federal responsibilities, born from the reserve to the states of all powers not assigned to the federal level of government (rather than specific enumeration thereof), has led (instead of a clear definition of policy responsibilities and rights) to a merging of boundaries and, at times, active conflict between the two levels of jurisdiction.[169] It is largely due to this division of powers that the states in both the U.S. and Australia have gained political leverage, and are able contribute domestically to the formation of federal marine policy.

Because of the inherently dynamic nature of the political process, federal/state renegotiations widely reflect changing social philosophies. For example, in neither the U.S. nor Australia is the federal level of government granted, under the relevant Constitution, the right legislate with regard to the environment. Indeed the environment does not even rate a mention, a reflection of its historic irrelevance at the time of inception of both constitutions, and the preoccupation with property rights of the new settlers. Both governments have tackled the problem similarly, through the manipulation or application other powers so as to give effect to environmental imperatives — for example the external affairs power,[170] or the commerce clause.[171]

Perhaps surprisingly, the process of redistributing powers between the various levels of government is not always an adversarial one based on federal encroachment into areas of previous state competence. Each nation at particular stages has also chosen to devolve considerable powers back to the states during phases of influence by 'new federalist' political thinkers. This form of cooperative rule has been termed accordism

167 *The Constitution of the Commonwealth of Australia*, section 51(i, xx, and xxix).

168 In the U.S. see for example *Hodel v. Virginia Surface Mining and Reclamation Association, Inc* 452 U.S. 264 (1981); in Australia see for example *Murphyores Incorporated Pty Ltd v. The Commonwealth* (1976) 136 CLR 1.

169 For discussion of the Austrlain situation see Davis, B., "Federal-State Tensions in Australian Environmental Management: The World Heritage Issue" (1989) 6 *Environmental and Planning Law Journal* 66; and Tsamenyi, B.M. and Bedding, J., "The World Heritage Convention in the High Court: A Commentary on the Tasmanian Forests Case" (1988) 5 *Environmental and Planning Law Journal* 232.

170 *The Constitution of the Commonwealth of Australia*, section 51 (xxix).

171 *The Constitution of the United States of American*, Article I.

by one author, and is characterised by federal engagement with all spheres of government, NGOs and industry lobby groups.[172]

Even in the absence of a governmental policy of inclusion, dominant industry lobby groups are able to exert considerable influence over the form of domestic policy formation. The primary function of industry lobby groups is to engage in political activities to shape government policies on behalf of their member.[173] Howlett and Ramesh contend that the most influential factor in an industry's capacity to influence change is their internal organisation, in particular the level of worker membership, as collective action is the only influence such bodies have.[174]

The industrial fishing sector underwent a major shift in the 1980s, since which time it has become much more like that of other occupations. Three aspects that characterise this change are that:

- fishing has become highly politicised with a range of actors and greater dependence upon the shifting distribution of power and authority;
- economic dimensions are more closely intertwined with public policy than before, such as is evidenced in the common property debates surrounding the marine environment; and
- fishing has become an unsettled moral issue based upon questions of the 'right' to fish.[175]

Miller and VanMaanen observe that because of this linkage between the political, the economic and the moral, the fishing community has become a network of operational groups, interlinked by the three sectors of harvesting, processing and management — with each of these sectors contributing to the development of fisheries policies.[176] Haward supports this in his statement that

> [t]he relationship between industry groups and different tiers of government in a federal system provides an important, yet neglected, aspect of intergovernmental interaction. The linkages between industry groups and government departments provide reinforcement of that tier of the government's interest in the particular policy area. ... The presence of these groups adds a third party dimension to intergovernmental arrangements whose influence is generally understated in the literature.[177]

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172 Economou, N., "Accordism and the Environment: The Resource Assessment Commission and National Environmental Policy-Making" (1993) 28 *Australian Journal of Political Science* 399.

173 Taylor, A., *Trade Unions and Politics* (Macmillan, Basingstoke, 1989).

174 Howlett and Ramesh (1995) *op. cit.* n20.

175 Miller, M.L. and VanMaanen, J. "The Emerging Organisation of Fisheries in the United States" (1983) 10 *Coastal Zone Management Journal* 369.

176 *Ibid.*

177 Haward, M., *Federalism and the Australian Offshore Constitutional Settlement* (unpublished, Doctor of Philosophy dissertation, University of Tasmania, 1992) at 92.

## 2.6 The policy cycle

The discussion thus far has focused upon the influence of four interrelated factors upon the promotion and resolution of an issue. Although there is no doubt that all four factors offer a general contribution to bycatch policy formation, there remains conflict over the details of the influence each has upon the specific nature of a policy output. Complicating the situation is that the factor of greatest influence may vary throughout the formation of any single policy. Hence, to help in an analysis of policy formation, it is instructive to consider the model of a policy cycle or process.

> The most important advantage of the policy cycle model ... is that it facilitates the understanding of public policy-making by breaking the complexity of the process into a limited number of stages and sub-stages, each of which can be investigated alone, or in terms of its relationship to any or all the other stages of the cycle.[178]

Thus the policy cycle provides a useful framework within which to examine the interaction of influential factors, and to determine their individual impact upon the endpoint policy.

The earliest models of the policy process utilised decision theory. An alternate body of writing that later emerged applied a systems perspective, where outputs arise out of processed demands. From discussions on the influence of power distribution among actors, evolved a third stream, that of interest group theory. In his discussion on these alternate policy models and their sub-models, Dye highlights that none are incorrect, and that each model has its own merits and hence these simply provide different perspectives on the focus of policy development.[179]

In terms of analysing a range of influences upon the development of a policy, the strength of the system theorists' model lies in it's conceptualisation as a series of stages. Jenkins' policy process, and Hogwood and Peters' policy cycle models, each alienated several stages in policy development, which can be isolated into three major phases.[180] They are:

1. the emergence of the issue onto the agenda;
2. the processing of the issue to develop a policy; and
3. the implementation of the policy.

In more recent work on the policy cycle by Howlett and Ramesh, the processing phase is split into that of policy formation and policy decision-making. Herein policy

178 Howlett and Ramesh (1995) *op. cit.* n20 at 12.

179 Dye, T., *Understanding Public Policy (5 Ed)* (Englewood Cliffs, New Jersey, 1984).

180 Jenkins (1978) *op. cit.* n20; Hogwood and Peters (1983) *op. cit.* n20; and Howlett and Ramesh (1995) *op. cit.* n20.

formation involves the elimination of policy options until only a few are left from which the final policy selection is made, and this final selection then constitutes the decision-making phase.[181] Policy formation does not necessarily undergo two such distinctive phases and it is perhaps more instructive to view these as potential stages within the earlier identified second processing phase of the policy cycle.

Early work on the first phase of the policy cycle was done by Richardson and Jordan.[182] They identified a tripartite influence, that of the "issue community", comprised of the government, the civil service and interests groups, upon the building and setting of an agenda. Similarly Baumgartner and Jones' work (based on the premise that agenda setting is a process of discussion, debate and persuasion) developed a model focused around the actors involved in the policy setting process. Herein the idea of policy monopolies emerged, where key or principle actors are able to direct the interpretation of a problem, and thus the manner in which it is considered.[183] This idea of process led to the generation of three models by Cobb, Ross and Ross:[184] an outsider model where issues originate in non-governmental groups and are then propelled into the public arena and onto the institutional agenda; an insider model where placement of an issue on the agenda is initiated by key actors with special access to decision-makers and is often characterised by a desire to keep the issue out of the public sphere so as to limit participation to specialised knowledge or interest groups; and a mobilisation model wherein issues are placed on the formal agenda by the government and potentially may involve neither a public grievance, nor public involvement in the subsequent policy formation process.

The public raising of an issue does not, however, guarantee that policy formation or even debate will follow.[185] To explain this Downs suggested that there is an issue-attention cycle that many agenda items fall into, and which prevents their evolution into actual policies. This cycle follows the path of (1) pre problem stage where experts or those with a particular interest identify a problem, followed by (2) a public declaration and education phase, commonly evidenced by an "alarmed discovery"

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181 Howlett and Ramesh (1995) *op. cit.* n20.

182 Richardson, J. and Jordan, A., *Governing Under Pressure: The Policy Process in a Post-Parliamentary Democracy* (Partin Robertson, Oxford, 1979).

183 Baumgartner F. and Jones B., "Agenda Dynamics and Policy Subsystems" (1991) 53 *Journal of Politics* 1044.

184 Cobb, R., Ross, J. and Ross, M., "Agenda Building as a Comparative Political Process" (1976) 70 *American Political Science Review* 127. Howlett and Ramesh (1995) criticise Cobb, Ross and Ross's linkage of particular agenda raising processes with certain types of political regimes, instead claiming that each of the proposed agenda raising schemes could apply to in range of political governance models and that "no firm generalisation of agenda-setting by regime type is possible" (at 114).

185 Downs, A., "Up and Down with Ecology - The Issue Attention Cycle" (1972) 28 *The Public Interest* 38.

and "euphoric enthusiasm". As (3) a realisation of the impediments to, and costs of, solving the problem emerges, there is (4) a decline in the public interest and displacement of the issue by another. Finally the issue enters the (5) the post-problem phase, where it exists in a prolonged issue limbo, albeit with a higher profile than pre problem, but where no policy to address the issue has emerged.[186] Notwithstanding the lack of an actual change, such events are still significant — a policy to do nothing, as occurs in Downs' model when the post-problem phase is reached, is still, in itself, a significant decision.

An alternate stream of literature on agenda setting looked to capture the relationships between interests, institutions and ideas.[187] Early commentators identified influential factors in agenda setting as including the socio-economic and physical environment, the distribution of power, prevailing ideas and ideologies, bureaucratic structures, and process of governmental decision making. From this position, Kingdon offers an alternative explanation for the failure of an issue to develop into a policy. He suggests that a combination of factors are need to be present for the 'window of opportunity' to open.[188] According to this theory, in order for an issue to be successfully placed on the agenda, the realisation of the existence of a problem, the accumulation of sufficient knowledge and perspectives so as to be able to react quickly with a solution policy, and finally a political atmosphere conducive to the particular changes, all need to be present. Where these three factors of problem, policy and politics converge, then the window opens, and an issue is able to reach the policy agenda. Without such convergence, issue limbo occurs.

If an issue does progress into phase two of the policy cycle, two features from the agenda forming stage will influence its subsequent development. These features are the how and the why of the issue's progression onto the agenda. And the answers may influence the not only the ultimate policy itself, but also the role and influence afforded to various factors and players in the development of that policy. To recall, the influence of science may be considerably different if the issue is highly politicised from the start, as opposed to had it emerged as a scientific dilemma; or, the role of an NGO which was influential in the raising of an issue, may in the next phase be that of an "insider", rather than an independent lobbying body.

Regardless of its route through, an issue's arrival at the processing phase of the policy cycle is characterised by the drawing of actors into a network, leading to closer

186 *Ibid.*

187 Hofferbert, R., *The Study of Public Policy* (Bobbs-Merrill, Indianapolis, 1974); and R. Simeon, "Studying Public Policy" (1976) 9 *Canadian Journal of Political Science* 548.

188 Kingdon, J., *Agendas, Alternatives, and Public Policies* (Harper Collins, Michigan, 1984).

problem definition, and eventually a proposed policy action. Decisions derived out of this process are not necessarily based upon facts, but alternatively, a negative perception of a particular option by a key policy actor may be sufficient to preclude its further consideration.[189]

Several models to assist in understanding the policy formation and decision-making phase of the policy cycle have been proposed. The best known three are the rational, the incremental and the garbage can models. The first of these assumes that procedures that will lead to the most efficient means for attaining policy goals will be followed, through the gathering of all relevant information, and the selection of the best alternative. What this fails to realise is that policy making is not a technical exercise but rather an inherently political process.[190] The incremental model conversely argues that decision making is a process of bargaining and compromise between decision makers, where only a few appropriate alternatives are considered, and selection herefrom occurs through a series of 'successive limited comparisons' with previous decisions.[191] As suggested by the name, the process results only in incremental changes from the status quo. It is criticised, among other things, for its inherent conservatism and suspicion of large scale change and innovation, its confinement of participation to senior officials, and its limited application to that of a relatively stable environment.[192] The final model that of the garbage can, views decision making as a highly ambiguous and unpredictable process.[193] This model sought to highlight many of the criticisms of the earlier two models, in that not only are causal relationships often unknown to policy makers, but that frequently the goals are also unclear. This model is itself however, criticised as being an unnecessarily exaggerated version of policy processing.

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189 Howlett and Ramseh (1995) *op. cit.* n20.

190 Howlett and Ramesh (1995). Simon argued a range of reasons that prevented rational decision making including the cognitive limits of decision-makers, their political and ideological biases, the inability to know all the consequences of all options, and the difficulties inherent in comparing alternatives with a selection of favourable and adverse outcomes. Simon, H., "A Behavioral Model of Rational Choice" (1955) 69 *Quarterly Journal of Economics* 99.

191 Lindblom, C., "The Science of Muddling Through" (1959) 19 *Public Administration Review* 79. Walker (1994) names this process of taking the first acceptable solution as 'satisficing', and is critical of such an approach due to the inherent danger that a eminently more desirable policy may, as a consequence, be overlooked.

192 Howlett and Ramesh (1995) *op. cit.* n20.

193 March, J. and Olsen, J., *Ambiguity and Choice in Organisations* (Universitetsforlaget, Bergen, 1976). So named because decision opportunities were:

> a garbage can into which various problems and solutions are dumped by participants. The mix of garbage in a single can depends partly on the labels attached to the alternative cans; but it also depends on what garbage is being produced at the moment, on the mix of cans available, and on the speed with which garbage is collected and removed from the scene (at 26).

As implied in the models discussed above, and unlike agenda-setting, the policy processing phase is dominated by members of the policy subsystem. That is, participation is by those who have some minimal level of knowledge of the subject and hence are able to comment on the feasibility of various moot options.[194] Indeed where there are two distinctive phases as proposed by Howlett and Ramesh's model, participation in the decision-making phase normally excludes virtually all non-state actors, and only those officials empowered to make authoritative decisions in the issue area participate.[195]

Unsurprisingly, preferential relationships between players have considerable influence at this stage of the policy process. In this regard, Richardson and Jordan highlight the importance of the presence of machinery, not only to facilitate the processing of an issue, but also as a means of dictating the involvement of various interests.[196] Commonly institutions will attempt to retain control over other groups and over the processing of the issue. Control however may be circumscribed by a host of rules constraining the actions of decision-makers, and the institutional or political acceptability of potential participants. For example an official may be required to surrender some of their control to other policy actors where federal/state or national/international issue agendas overlap, and incompatible machinery would otherwise disable an issue's processing. Alternatively, particular actors, who were either not invited to participate, or who feel it is otherwise beneficial, may operate outside of the institution's machinery. An NGO not included in a closed forum may still contribute by facilitating the processing of a complex issue; or a scientific community may prefer to provide unsolicited evidence and independent advice so as to better assist in rational decision-making.

Relationships within the policy processing phase are not static. An actor involved in the formation of a policy may withdraw from the process, or at the closure of this phase, may register their displeasure with the end product. If the outcome is highly unsatisfactory, then they may actively resist its implementation. Although "once a decision is reached, once a policy is announced ... there is a tendency for the issue concerned to leave the agenda", the selection in phase two of a particular policy does not necessitate the closure of the issue.[197] Even if a policy appears to have been agreed upon, the successful translation of plans into practice is not assured.

194 Howlett and Ramesh (1995) *op. cit.* n20.

195 *Ibid.*

196 Richardson and Jordan (1979) *op. cit.* n182.

197 *Ibid* at 143.

Limitations to achieving the prescribed objectives may stem from the nature of the problem itself, such as intractable technical difficulties, the size and diversity of the target group and consequential difficulties in altering its operation, or the extent of behavioural change the policy requires. In addition, externalities (which may change at any time) affect the successful implementation of a policy decision. These externalities may include the development of new technology, or changes in economic conditions, political circumstances, or administrative apparatus.[198] Finally, the policy choice itself and presentation thereof may affect its implementation. The clarity of the goals, the utility of procedures for implementation, the availability of a causal theory as to why the prescribed measure should achieve the said goals, the allocation of sufficient support funds and resources, and the selection of an appropriate lead agency to enforce and oversee policy implementation, are all significant in the final outcome. Further to these, direct resistance may come from a party who was either not given active involvement in the second phase of the cycle, or who was dissatisfied with the outcome. Another common reason for policy failure at this stage is institutional impairment. Bureaucracies, hostile to politically driven changes, may attempt to ignore or reinterpret the policy in their preferred manner.[199] In this situation, interest groups may act as the public guardian, playing a 'watchdog' role in seeking to reinforce state accountability and compliance and where necessary reverting to the use of judicial redress to force policy implementation.[200]

As demonstrated, the progression from agenda issue to policy implementation is neither instantaneous, nor necessarily smooth. And the public policy process is not nearly as tightly sequential as the model makes it appear.[201] For example, preferred solutions may be mooted in the agenda-setting phase. Moreover,

> while disaggregation permits the detailed examination of the policy process, it begs the question of what the process looks like when all its constitutive pieces are reassembled.[202]

Within the cycle outlined above, a range of relevant factors and related actors may retard or promote the development of policy at any one or more of the three identified stages. Howlett and Ramesh describe these as the actors, institutions and ideas. The first encompassing the executive, bureaucracy and legislature as well as societal actors such as interest groups, research organisations and mass media. The institutions similarly are both internal and external to government, and it is both the structuring of

198 Howlett and Ramesh (1995) *op. cit.* n20.

199 Walker (1994) *op. cit.* n16.

200 Elliott (1994) *op. cit.* n116.

201 Howlett and Ramesh (1995) *op. cit.* n20.

202 *Ibid* at 184.

these and the relationship between society and state that determines their ability to effect the policy process. Finally, ideas are instrumental in the shaping of policy discourse by conditioning actors' views of what is both desirable and practicable.[203] In the case-studies below, these elements of actor, institution and idea are considered under the headings of the role of science, the influence of NGOs, international factors, and the domestic imperatives at work. These parameters, as discussed, are critical in understanding the development of bycatch policy. To be sure, combination and recombination of these four factors are the main determinants in the development of Australia's and the U.S.'s bycatch policies.

The following three chapters contain description and analysis of the successes and failed attempts at creating marine wildlife bycatch policies in the U.S.. The intent of this examination is not only to document a hitherto academically neglected area of marine conservation and fisheries policy, but also to aid in the elaboration of the evolution and various influences of the four factors discussed above. The intent in so doing is not to describe an ideal bycatch policy, but rather, to enunciate those elements that retarded and promoted bycatch policy development and where in the policy cycle these can be of greatest benefit. Thus, this thesis provides not only a record of U.S. action on marine wildlife policy, but moreover, a significant contribution towards the creation of a marine bycatch (and more broadly marine fisheries conservation) policy theory is made.

203 *Ibid.*

# Chapter Three -
# U.S. Bycatch Policy: 1970-1980

## 3.1 Introduction

The United States' efforts to curb the capture of marine wildlife incidental to commercial fishing operations have been varied and, until recently, ad hoc in nature. The period examined in this Chapter, from the early-1970s to 1980, was one of transition to be sure; when the U.S. government accommodated itself to the replacement of the Grotian doctrine with a new regime of extended coastal state jurisdiction.[1] The seaward movement of national boundaries was, in part, motivated by a desire to control and exploit the natural resources in the oceans adjoining States' coastlines, and was facilitated internationally through the third reconvention of negotiations for a Law of the Sea Convention.[2] Domestically, the early 1970s witnessed a flurry of federal legislative assertiveness in the field of marine policy. Spearheaded by an active Congress (rather than the Presidency) the oceans' program movement was lent force by substantive leadership in both the House and Senate.[3]

This spate of marine oriented enactments was driven largely by the emergent public interest in the environment, and caution towards the 'dark side of technology'.[4] The first landing on the moon in 1969, and photos of the earth from outer space, raised the profile of the concept of the earth's environment as a closed system, and the metaphor 'spaceship earth' was popularised.[5] In 1970 Life Magazine declared "Ecology: a cause becomes a mass movement" and public support was formalised in the national celebration by a reported 20 million people of Earth Day 1970.[6] This emergent environmental awareness was supported by the popular media, and characterised by

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1 The Grotian doctrine of freedom of the high seas holds that nations have a right to freedom of navigation for civil and military purposes, and freedom to take the oceans' resources, with the caveat of the exclusive right of a sovereign State to exercise jurisdiction over a narrow territorial sea, subject to the right of innocent passage for vessels of other states. This concept was outlined in the early 1600s by Hugo Grotius' in his treatise "Mare Liberum", where he claims that the sea can not be owned. See Aceves, W., "The Freedom of Navigation Program: A Study of the Relationship Between Law and Politics" (1996) 19 *Hastings International and Comparative Law Review* 259.

2 Miles, E. and Fluharty, D., "U.S. Interests in the North Pacific" (1991) 22 *Ocean Development and International Law* 315.

3 These include Representative Pelly, Representative Dingell, Representative Studds, Senator Magnuson, Senator Stevens.

4 See Caldwell, L., "Globalizing Environmentalism: Threshold of a New Phase in International Relations" (1991) 4 *Society and Natural Resources* 259.

5 Boulding, K., "The Economics of the Coming Spaceship Earth", in Jarrett, H. (ed), *Environmental Quality in a Growing Economy* (Johns Hopkins Press, Baltimore, 1966) pp.3-14.

6 Earth Day was held on 22 April 1970. See Dunlap, R. and Mertig, A., "The Evolution of the U.S. Environmental Movement from 1970 to 1990: An Overview" (1991) 4 *Society and Natural Resources* 209.

an escalation in public membership of environmental NGOs.[7] In the early 1970s these organisations concentrated their efforts not only on agenda raising via the media, but also on policy formation through the lobbying of Congress, and they affected desired changes through influencing legislative enactments and amendments. Litigative action, in response to administrative branch inaction or legislative misinterpretation, did not emerge as a serious option until several years of statutory operation of each Act, and was not routinely practiced by NGOs as a means of redress until the 1980s.[8]

Amidst this flurry of community concern, a general environmental protection statute was enacted in 1970.[9] This was followed shortly thereafter by marine mammal and endangered species protection legislation, and several years later a new system for the governance of U.S. fisheries. Two recurring themes can be traced through these enactments: the expansion of federal control into areas of previous state jurisdiction, and an increase in the U.S.'s international assertiveness facilitated through both negotiation, and the threat of trade sanctions.

In relation to the bycatch of marine wildlife, the issue which received the greatest attention in the 1970s was the take of dolphins in tuna purse-seining operations. The *Marine Mammal Protection Act* (MMPA) was enacted, in part, due to public and Congressional concern generated in response thereto. It placed a moratorium on the take of marine mammals and then laid a permit system over the top, so as to provide for commercial exemptions from this broad prohibition. In its enduring attempts to both conserve marine mammals and protect U.S. fishing interests, Congress has tended to increase restrictions on marine mammal take simultaneous to the provision of greater industry concessions: hence the MMPA's actual effectiveness as a tool to discourage the incidental capture of marine species has been limited.

The MMPA did not purport to offer protection to marine reptiles or seabirds. Where the survival of these marine wildlife was threatened or endangered they were, instead, to be placed under the jurisdiction of the *Endangered Species Act* (ESA). Though enacted in partial response to the successful negotiation of the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) and aimed at preventing the extinction of species due to unrestricted international trade, the ESA

7 In the period between 1960 and 1969 U.S. NGO membership increased sevenfold from 123,000 to 819,000, and in the subsequent three years increased by another 300,000 members. Mitchell, P., Mertig, A. and Dunlap, R., "Twenty Years of Environmental Mobilization: Trends Among National Environmental Organisations" (1991) 4 *Society and Natural Resources* 219.

8 The increase in litigation witnessed in the 1980s was also a reflection of, and reaction to, the less open system of government, and a reduction in the avenues of access that were available to interest groups under the Reagan administration between 1980 and 1988.

9 *National Environmental Policy Act* of 1969, Pub. L. No. 91-190, 83 Stat. 852 (hereafter "NEPA").

had a broader mandate and implemented a similar protective scheme to the MMPA. It was under this scheme that turtle bycatch in shrimp trawling was first addressed. Notwithstanding that declining populations of sea turtles was raised as a concern at the beginning of the 1970s, little had been done to remedy the situation by the end of the decade. The reason for this inaction can by and large be attributed to interagency conflict stemming from disagreement over who had primary jurisdiction for sea turtles under the ESA.

Concern over the bycatch of marine wildlife was not restricted to the domestic arena. With increasing ocean enclosure, and growth in the size of foreign fishing fleets, the U.S. administration was directed through Congressional enactments to initiate the formation of a variety of bi- and multi-lateral fisheries arrangements. Motivated by the rapid growth in tuna and salmon fisheries in the North Pacific and Atlantic Oceans, the U.S. also took a lead role in ensuring the expansion of extant regimes from tools for the allocation of fishing rights, to include environmental considerations such as bycatch. This move was not entirely altruistic, it was also an attempt by the U.S. to prevent the loss of income due to the reflagging of its vessels to flags of convenience, and to minimise opposition to its own domestic arrangements by ensuring that foreign imports did not have a price disadvantage over the U.S. catch. Resistance to this new paradigm in international offshore management, from both littoral States and the DWFNs, led to the U.S.'s development of a range of trade mechanisms with which to persuade or coerce participation or adherence by reluctant nation States.

## 3.2 Trade as a tool: the Pelly Amendment to the Fishermen's Protective Act

The first of several domestic instruments that provided the U.S. with the means to impose unilateral sanctions, as a supplementary procedural mechanism in an attempt to control the actions of foreign fishing nations, was enacted in 1971. The Pelly Amendment[10] added section 8 to the *Fishermen's Protective Act*, whereunder the U.S. could place trade restrictions upon foreign nations so as to encourage them to become part to or comply with international fishery conservation programs to which the U.S. was signatory.[11] Although initially intended as a tool with which to halt overfishing,

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10 *Fishermen's Protective Act Amendment* of 1971, Pub. L. No. 92-219, 85 Stat. 786 (hereafter the "Pelly Amendment").

11 The Pelly Amendment included no requirement that the foreign nation certified thereunder be themselves a signatory to the triggering agreement. An "international fishery conservation program" was defined (at enactment) to mean

> any ban, restriction, regulation, or other measure in force pursuant to a multilateral agreement **to which the United States is a signatory party**, the purpose of which is to conserve or protect the living resources of the sea. (The Pelly Amendment of 1971, §1978h(3), [s8h(3)] (emphasis added)).

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the Pelly Amendment was potentially amenable to the control of marine wildlife bycatch. Indeed, since amendments were passed in 1978 that extended the Act's application to wildlife conservation, the legitimacy of Pelly Amendment's use in bycatch reduction has been established beyond doubt.

Historically very little fishing occurred in international waters.[12] Freedom of fishing on the high seas, subject to treaty obligations, had nonetheless been protected under consecutive United Nations' Conventions.[13] Fishing fleets on the high seas fell under the control of only the flag State of the vessel; and littoral States were unable to exert direct control over fishing operations occurring in the ocean commons adjoining their coastlines. They instead had to convince the flag State to whom the vessel was registered to impose regulations to control the particular fishing operations.[14] Agreement of this nature often came in the form of an international treaty, negotiated so the flag State would gain some other beneficial concession from the initiating nation. Where such agreement was not forthcoming, alternative options included extended jurisdictional claims to assert proprietary rights over the area in question, or coercion through the imposition or threat of trade sanctions. Both these techniques have been used by the U.S. in its attempts to gain control over DWFNs' operations, the latter of which first gained notoriety through the enactment of the Pelly Amendment to the *Fishermen's Protective Act*.

The *Fishermen's Protective Act* was initially enacted in 1954.[15] The Pelly Amendment to this Act, was crafted with the intent of conserving and protecting atlantic salmon of North American origin. This was primarily in response to a perceived need to provide for action against Denmark, the Federal Republic of Germany, and Norway, all of who

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As such, in addition to encouraging compliance, it was possible that the Pelly Amendment be used to encourage international participation in new negotiations.

12 This was particularly significant given that, in 1971, coastal State jurisdiction extended only 3nm seaward from low water mark under international law. Fishing beyond this 3nm mark did however, occur off the coast of Alaska. See Buck, E., *National Patterns and Trends of Fishery Development in the North Pacific* (Arctic Environmental Information and Data Center, University of Alaska, Anchorage, 1975).

13 See Convention on Fishing and Conservation of the Living Resources of the High Seas, 599 U.N.T.S. 285 (1958), Article 2(11); most recently see United Nations Convention on the Law of the Sea, 21 I.L.M. 1261 (1982), Article 87.

14 The recent Straddling and Highly Migratory Fish Stock Agreement changes the situation somewhat. See Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 34 I.L.M. 1542 (1995) (hereafter "UNIA" or the "Implementing Agreement").

15 Enacted in 1954, the original Act was amended in 1967 by the *Fishermen's Protective Act* of 1967 (Pub. L. No. 90-482, 82 Stat. 729) such that

> "the Act of August 2, 1954" (68 Stat. 883; 22 U.S.C. 1971-1976), as amended by this Act may be cited as the 'Fishermen's Protective Act of 1967'.

had filed objections to, and were refusing to comply with, a ban on high seas salmon fishing established in response to a decline in stocks.[16]

The mode of operation proposed by Representative Pelly in H.R. 3304 was initially opposed by the Departments of State and Commerce. While hearings in the House were being conducted the member parties to the International Convention for the Northwest Atlantic Fisheries (ICNAF) met, and it became apparent that a ban on the high seas fishing of salmon would not be agreed to by all of the 15 member States. Subsequently the Departments endorsed the Pelly Amendment, albeit with several changes to its original proposed form.[17] Suggested alterations extended the scope of the Pelly Amendment's application. The first of these increased the section's jurisdiction from exclusively governing salmon species, to encompass all fish and marine mammals. The Pelly Amendment's inclusion of marine mammals was with mind only to the direct harvesting thereof though, rather than being also intended as a remedy to incidental captures. A second alteration to H.R. 3304 saw a shift from the authorisation of embargos upon nations whose actions result in the diminishment of domestic programs, instead, to the triggering of such action in response to violations of, or refusals to comply with, international programs. Both changes to the original Bill were adopted by Congress and integrated into the enacted text.

In its final form, the Pelly Amendment functioned via the invocation of a requirement that the Secretary of Commerce certify to the President when the Secretary determined that nationals of a foreign State were conducting fishing operations that diminished the effectiveness of an international fishery conservation program.[18] In response to certification, the Pelly Amendment allowed for the President to direct the Secretary of Treasury to prohibit the importation of all fish products from offending nations. Within 60 days of certification the President was required to notify Congress of any action taken, and the reasons behind action(s) which did not fully prohibit the

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16 The background against which the Pelly Amendment was proposed and enacted, began with the changed fishing patterns from an essentially inshore activity in the 1950s, to rapidly assume high seas capabilities in the 1960s. Late in that decade Denmark, Norway, and Sweden began catching large quantities of salmon from the waters of the Davis Straits, where the fish were found to congregate in the winter months. A rapid decline in stock occurred, and under the auspice of the International Convention for the Northwest Atlantic Fisheries (ICNAF) —to which all four nations (including the U.S.) were party — a ban on the high seas taking of Atlantic salmon was instigated. Denmark, the FRG and Norway subsequently issued objections, and under the ICNAF were hence free to ignore the ban. The remaining ICNAF nations were concerned, in particular, about Denmark's operations, which amounted to 900 ton of the combined 1180 ton catch of the Scandinavian nations. Given the considerable portion of the total catch that was taken by Danish vessels, their objection effectively nullified the ban, and in its place the ICNAF nations agreed to the setting of an annual quota. By the early 1970s the issue had still not been settled. *House of Representatives Report (Merchant Marine and Fisheries Committee)* No. 92-468, [To accompany H.R. 3304] 92d Cong., 1st Sess. (1971), reprinted in 1971 U.S.C.C.A.N. 2409 (Hereafter "H.R. Rep. 92-468").

17 *Ibid.*

18 Pelly Amendment, §1978(a), [s8(a)].

importation of all fish products from the offending nation.[19] Hence, and although reportage requirements were mandatory, the Presidential power was discretionary and there was no compulsion for the application of sanctions.

One caveat to the Pelly Amendment was that actions taken pursuant thereto had to be consistent with the General Agreement on Tariffs and Trade (GATT or General Agreement).[20] This exercise in caution was an attempt to avoid charges of violation of the GATT by the Pelly Amendment, and explains many of the procedural aspects of the Amendment. The 1947 GATT had been intended as a post WWII multilateral agreement on tariff reduction, and companion to the International Trade Organisation whose charter was negotiated at the same time. In the event the U.S. Congress failed to approve the ITO charter and the General Agreement filled this vacuum.[21] The GATT was intended to limit the Pelly Amendment only to the extent that it prohibited "arbitrary or unjustifiable discrimination" or a "disguised restriction on international trade". Indeed, the Department of State in it's submission to the House Committee remarked that

> while the use of trade sanction is generally inconsistent with our obligations and policies, it is recognised as appropriate to apply limited restrictions to trade to achieve comparability between the treatment afforded domestic and foreign interests in carrying out such conservation regulations.[22]

The two measures were thus believed to be in accord, so long as controls relating to the conservation of exhaustible natural resources were "made effective in conjunction with restriction on domestic production or consumption."[23]

Notwithstanding this apparent confidence in the legal validity of the Pelly Amendment as per the GATT, the Act afforded the President considerable flexibility with regard to the details of embargoed species, due largely to residual uncertainty regarding the legality of imposing sanctions on all fish products, rather than the less appealing option of an import ban upon only those species directly considered in the particular international convention.[24] So as to allow for continued trade action should a possible

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19 *Ibid*, §1978(b), [s8(b)].

20 *Ibid*, §1978(a)(4), [s8(a)(4)]. General Agreement on Tariffs and Trade, 55 U.N.T.S. 187 (1947) (hereafter the "GATT" or the "General Agreement").

21 Although the GATT is not technically a treaty, it received a Congressional executive order and was approved by the President under the authority of the *Trade Agreements Act* of 1945.

22 Department of State, *Report on Legislation*, cited in H.R. Rep. 92-468 *op. cit.* n16 at 2413.

23 *Ibid* at 2413; see also GATT, Articles XX(g).

24 The reason for wanting to apply the embargos to all fish products was the potentially large economic impact that such action would have upon an offending nation. For example, Danish salmon exports to the U.S. were said to be worth $US63,844 in 1970, as compared with the $US10,543,298 value of all Danish fish products imported into the U.S.. The difference in impact of an embargo of $63,000, as compared to that of ten and a half million dollars worth of goods is obvious. Department of State, *Report on Legislation*, cited in H.R. Rep. 92-468 *op. cit.* n16.

challenge under the GATT be upheld, the mandatory scheme proposed in H.R. 3304 was slightly revised such that it allowed for the discretionary application of embargos by the President on certification of a nation.[25] Introduced concomitant to this allowance of Presidential discretion, was the statutory requirement to report and explain any partial implementation of the Pelly Amendment to Congress. Such reportage was viewed by the Committee as "essential to [their] oversight responsibilities".[26]

The Congressional caution demonstrated with respect to the international legal validity of the Pelly Amendment may have been well founded. Commentators have argued that the relating of trade restrictions to international instruments does not diminish the unilateral character of the sanctions imposed, and thus places them in violation of the GATT.[27] The basis of these claims relates, in particular, to the targeting of non-signatory nations, and thus the expansion of the agreement to additional and involuntary parties. Also, problematic is the use of sanctions to enforce international recommendations before formal agreements have come into effect. Moreover, some commentators have suggested that, as the authority under the Pelly Amendment to determine a nation's compliance lies with members of the U.S. executive, and not with an international tribunal, it is (regardless of the validity of the agreement or treaty under international law) essentially a unilateral trade embargo imposed unlawfully upon a foreign nation.[28]

In the years following the enactment of the Pelly Amendment, its primary utility appeared to be in passive discouragement of nations considering taking actions disfavored by the U.S. with regard to the conservation of marine living resources. The only active use of the provision, as enacted in 1971, was in 1973 when the Secretary of Commerce certified Japan and Russia to President Ford for their failure to abide by provision of the IWC. Subsequently both nations, notwithstanding the strengthening of IWC whaling restrictions, agreed to comply with the Commission, in order that the U.S. President did not embargo these offending nations. The Pelly Amendment also

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25 In contrast to the enacted scheme, H.R. 3304 had initially proposed that the Secretary of Commerce certify nations directly to the Secretary of Treasury, who was then compelled to act on that information and enforce an embargo on the offending nation.

26 H.R. Rep. 92-468, *op. cit.* n16 at 2414.

27 Black, D., "International Trade v. Environmental Protection: The Case of The U.S. Embargo on Mexican Tuna" (1992) 24 *Law and Policy International Business* 123.

28 Joseph, J., "The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts" (1994) 25 *Ocean Development and International Law* 1.

provided another very important function: it led the way for the use of similar mechanisms in other major marine enactments of the 1970s and 1980s.[29]

In 1978 Congress considered the reauthorisation of the provision that allowed voluntary insurance for the reimbursement for certain losses incurred as a result of vessel seizures by foreign countries on the basis of claims of jurisdiction not recognised by the U.S..[30]

Testifying on behalf of a number of environmental NGOs Mr Garret raised an issue peripheral to the section 7 reauthorisation. He proposed an amendment to section 8 of the Act, and based on his suggestions section 8a(2) was added to the Pelly Amendment, such that the scope of the Amendment was considerably expanded. The intent was to "provide additional protection to endangered and threatened species of fish and wildlife".[31] The Act's jurisdiction was broadened to include action that may endanger an international program for threatened or endangered species, as a trigger for sanctions.[32] In accordance with the use of "take" in the MMPA and ESA, the 1978 amendment added this broadly defined term and made it an offence to take applicable endangered or threatened animals to which an international program applied. To this end, Congress provided the Secretary of the Interior with powers comparable to those of the Secretary of Commerce's for those species under his [sic.] jurisdiction.[33] Finally the application of the Pelly amendment to countries, whether the actions were sanctioned under the laws of the offending nation or not, was statutorily confirmed.[34]

The U.S.'s propensity towards extending the use of access restrictions to its waters as a disincentive for undesirable, yet unrelated, activities was clearly demonstrated in January 1980. Though under a different legislative tool, President Carter almost

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29 For example the Packwood-Magnuson Amendment to the FCMA (*Authorisation Appropriations — Fisheries Conservation and Management Act of 1976* of 1979 (Pub. L. No. 96-61, 93 Stat. 407, section 3)) and Section 609, *Conservation of Sea Turtles: Importation of Shrimp* (Pub. L. No. 101-162, 103 Stat. 1988 (1989)).

30 The provision was initially created in 1954 following the declaration of a series of zones of extended jurisdiction by foreign nations. Reauthorisation was in light of the 1976 expansion of U.S. territory seaward to 200nm, *Fishermen's Protective Act* of 1967 (Pub. L. No. 90-482, 82 Stat. 729).

31 Pelly Amendment of 1971, amended 1978, Pub L. No. 95-376, 92 Stat. 714; *House Report (Merchant Marine and Fisheries Committee)* No. 95-1029 [To accompany H.R. 10878], 95th Cong., 2d Sess. (1978), reprinted in 1978 U.S.C.C.A.N. at 1769.

32 Pelly Amendment, §1978a(2), [s8(a)(2)].

33 *Ibid*, §1978a(2), [s8(a)(2)].

34 *Ibid*, §1978g(7)B, [s8g(7)B].

immediately after the Soviet Union's invasion of Afghanistan, closed U.S. waters to the Soviet fishing fleet, an action was described by one author as a "food weapon".[35]

## 3.3 Environmental Awakening in the U.S.

Beginning in the 1960s the U.S. public underwent a much reported environmental awakening. Increased public attention towards the degraded state of the nation's natural environment, and the shift in legislative focus from concerns about the utilisation of specific resources, to the issue of environmental quality, were the result of a variety of influences.[36] Initially interest and concern in the environment was triggered by the emergence of several controversial books including works such as Rachel Carson's *Silent Spring*,[37] and Paul Ehrlich's *The Population Bomb*.[38] Compounding this were the Torrey Canyon tanker spill in 1968, and the 1969 Santa Barbara Channel oil blowout off the Californian coast, events which acted to focus public attention worldwide on the fragility of the marine ecosystem. The environmental movement of the late 1960s and early 1970s nurtured the growth in public environmental interest. Emergent environmental groups offered a different focus to the previously 'wilderness' dominated orientation: more accessible to the lay person, these NGOs formed a political movement and embraced concepts such aesthetic and ethical values. And, realising the potential of mass public support to influence the nature and form of governmental policies, NGOs launched a program aimed at public education and political persuasion.

This increased role afforded to environmental interest groups can not be entirely attributed to their increased membership, profile and activism. The situation on the domestic political front also contributed by providing conditions amenable to increased NGO involvement in policy formation.[39] The early 1970s was a period of considerable Congressional resurgence as was evidenced by:

1. the proliferation of subcommittees;
2. a particularly active Congress with a number of members in each chamber with interest in marine issues; and

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35 Warner, L., "Conservation Aspects of the Fisheries Conservation and Management Act and the Protection of Critical Marine Habitats" (1983) 23 *Natural Resources Journal* 97 at 127. This was undertaken under the Packwood-Magnuson Amendment to the *Fisheries Conservation and Management Act* of 1976 (Pub. L. No. 94-265, 90 Stat. 331) (hereafter "FCMA").

36 Bradley, D. and Ingram, H., "How Federalism Matters in Natural Resources Policy", in Silva, M. (ed), *Ocean Resources and U.S. Intergovernmental Relations in the 1980s* (Westview Press, Boulder, 1986) pp.37-74.

37 Carson, R., *Silent Spring* (Houghton Mifflin, Boston, 1962).

38 Ehrlich, P., *The Population Bomb* (Ballentine Books, New York, 1968).

39 Knecht, R., Cicin-Sain, B. and Archer, J., "National Oceans Policy: A Window of Opportunity" (1988) 19 *Ocean Development and International Law* 113.

3. a growth in the number and competence of Congressional staff and expanded Congressional Research Service.[40]

These changes acted to decentralise and expand Congress. They provided a "proliferation of access points" for these new, and increasingly politically astute, environmental groups.[41] Further encouraging the burst of federal legislative creativity evidenced in the early 1970s was Congress's strong distrust of the Executive branch. The heads of the administrative agencies in 1969 had been appointed by a President from a different political party to that which held power in Congress; and the democratic Congress was reputedly skeptical about the validity of President Nixon's interest in environmental issues.[42]

The presence of this combination of factors in the late 1960s and early 1970s led to the enactment of the *National Environmental Policy Act* (NEPA).[43] The NEPA created a broad national policy to "promote efforts which will prevent or eliminate damage to the environment," with the aim of creating and maintaining conditions under which man [sic.] and nature could live together in "productive harmony".[44] Accordingly, it incorporated into the statute a public trust language — later to be repeated in other conservation statutes — through the use of terms such as "trustee of the environment".[45] This implied obligation to govern on behalf of the people was of little surprise, given the prevalent political tensions between Congress and the Executive branch. To ensure such philosophy was successfully translated into action, the NEPA compelled the consideration of environmental factors in federal decision-making.[46] It required that all agencies consider the environmental effects of their intended actions, as well as the likely impacts of non-government proposals involving federal funding or approval. Surprisingly though, given Congress's attitude, the NEPA suffered from a similar shortcoming to its predecessor, the *Fish and Wildlife Coordination Act*.[47] Both statutes mandated that all federal agencies contemplating actions that may impact upon fish or wildlife consult with the agency assigned jurisdiction over such species:

40 The *Legislative Reorganisation Act* of 1970 (Pub. L. No. 91-570, 84 Stat. 1140). Cicin-Sain, B., "Managing the Ocean Commons: U.S. Marine Programs in the Seventies and Eighties" (1982) 16 *Marine Technology Society Journal* 4.

41 Kitsos, T. "U.S. Ocean Policy and the Uncertainty of Implementation in the 80s: A Legislative Perspective" (1981) 15 *Marine Technology Society Journal* 3.

42 Blumm, M. "The Origin, Evolution and Direction of the United States National Environmental Policy Act" (1988) 5 *Environmental and Planning Law Journal* 179.

43 NEPA, *op. cit.* n9.

44 *Ibid.* §4232, [s2].

45 *Ibid.* §4331, [s101]. For discussion the use of trustee of the environment language in U.S. legislation see Warner (1983) 112 *op. cit.* n35.

46 *Ibid.*

47 *Fish and Wildlife Coordination Act* of 1934, 48 Stat. 401.

both statutes, however, also required that only procedural considerations be fulfilled, and once these were satisfied, a proposal could continue unhindered, regardless of its impact.[48]

The policy attention and fiscal support given to scientific advancement in the 1960s, largely a by-product of cold war competition, flowed over into the environmental legislation of the early 1970s.[49] To implement the NEPA the Council on Environmental Quality — a newly created federal watchdog of environmental policy — developed a series of procedural rules, governing the application of the Act.[50] These rules established within the NEPA a recommendation-making process based solidly upon scientific findings. As with the trade provisions contained in the Pelly Amendment, this procedural emphasis on scientific rigor but with few substantive benchmarks for guidance, was to be mirrored in much of the legislation of the 1970s.

The range of statutes that surrounded the enactment of the NEPA acted also to enhance the federal role in environmental issues. For example, the passage of the *Marine Mammal Protection Act* in 1972 abruptly shifted the control over marine mammals from an almost entirely state dominated activity, to provide federal government preeminence.[51]

## 3.4 Marine mammal protection and tuna-dolphin bycatch

### The Marine Mammal Protection Act 1972

Over a four day period in October 1971, Congress passed a suite of conservation legislation.[52] These laws, in conjunction with the *Endangered Species Act* of 1973, significantly increased the scope of U.S. activity *vis-a-vis* the oceans, reflected a use-

48 The strength of NEPA requirements however, were revealed as early as 1971 in *Citizens to Preserve Overton Park v. Volpe* (401 U.S. 402 (1971)) where the requirement that a "hard look", or due consideration, was given by the agency to environmental factors was introduced. For example of the application of this precedent see, *Citizens Against Toxic Sprays, Inc v. Bergland* (428 F. Supp. 908, 922 (D. Orr. 1977)).

49 Knecht et al. (1988) *op. cit.* n39.

50 Kennedy, H., "The 1986 Habitat Amendments to the Magnuson Act: A New Procedural Regime for Activities Affecting Fisheries Habitat" (1988) 18 *Environmental Law* 339.

51 Silva, M. and King, L., "Ocean Resources and Intergovernmental Relations: The Record to 1980", in Silva, M. (ed), *Ocean Resources and U.S. Intergovernmental Relations in the 1980s* (Westview Press, Boulder, 1986) pp.75-104.

52 *Marine Mammal Protection Act* of 1972, Pub. L. No. 92-522, 86 Stat. 1027 (16 U.S.C.1361) (hereafter "MMPA"); *Marine Protection, Research and Sanctuaries Act* of 1972, Pub. L. No. 95-532, 86 Stat. 1052; *Coastal Zone Management Act* of 1972, Pub. L. No. 92-583, 86 Stat. 1280; and the *Federal Water Pollution Control Act* of 1972, Pub. L. No. 92-500, 86 Stat. 816 (now the *Clean Water Act*).

by-use management approach, and encouraged centralised authority at the national level.[53]

The *Marine Mammal Protection Act* prohibited the take of all marine mammals other than in situations where an exemption applied or permit had been granted. The rationale behind affording a high level of statutory protection to one particular group of fauna was the imminent threat of extinction that human activities posed to marine mammals.[54] The following opening statement to the House Report well captured this sentiment.

> Recent history indicates that man's impact upon marine mammals has ranged from what might be termed malign neglect to virtual genocide. These animals, including whales, porpoises, seals, sea otters, polar bears, manatees and others, have only rarely benefited from our interests: they have been shot, blown up, clubbed to death, run down by boats, poisoned, and exposed to a multitude of other indignities, all in the interest of profit or recreation, with little or no consideration of the potential impact of these activities on the animal populations involved.[55]

The successful passage of the MMPA was, by and large, a result of the momentum generated through the efforts of NGOs.[56] Environmentalists had successfully harnessed the public outrage over the slaughter of harp seal pups in Canada, and the fear that some whale species were becoming extinct. Relying upon the popularity of 'flagship' species, high profile campaigns were launched to draw attention to the plight of marine mammals.[57] These campaigns successfully raised the community's awareness of the practice of setting on dolphins in purse-seining operations, and the consequently high level of dolphin mortality suffered in the eastern Pacific tuna fishery.[58]

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53 Cicin-Sain (1982) *op. cit.* n40; Cicin-Sain, B. and Knecht, R., "The Problem of Governance of U.S. Ocean Resources and the New Exclusive Economic Zone" (1985) 15 *Ocean Development and International Law* 289.

54 MMPA, §1361(1), [s2(1)].

55 *House of Representatives Report (Merchant and Marine Fisheries Committee)* No. 92-707, [To accompany H.R. 10420] 92d Cong., 2nd Sess. (1972), reprinted in 1972 U.S.C.C.A.N. 4144 at 4145 (hereafter "H.R. Rep. 92-707").

56 The House report remarked that

> Interest in the welfare of marine mammals is manifest through-out the world. Recent investigations into the intelligence of animals such as whales, porpoise and seals have spurred protests in Ottawa, New York, London, and Paris against their wanton killing. Groups have been formed with the express purpose of advocating stronger protective measures, and their memberships have mushroomed.

*Ibid* at 4145.

57 The term flagship species refers to those animals, normally charismatic large vertebrates, which are used to anchor conservation campaigns due to the public sympathy and interest they arouse. Simberloff, D., "Flagships, Umbrellas, and Keystones: is Single-Species Management Passe in the Landscape Era?" (1998) 83 *Biological Conservation* 247.

58 Perrin, W., "The Porpoise and the Tuna" (1968) 14 *Sea Frontiers* 166; Perrin, W., "Using Porpoise to Catch Tuna" (1969) 18 *World Fishing* 42.

Highlighting the bycatch problem in combination with other threats to marine mammals, and in particular small cetaceans, environmentalists also addressed Congress directly. Members were encouraged to protect, over and above economic interests, the aesthetic and recreational significance of marine mammals.[59] To this end the Harris-Pryor Bill (H.R. 6554), cosponsored by some 90 members of Congress and supported by a body of concerned citizens, was brought before the Committee.[60] The intent of this bill was to give statutory backing to the belief that all marine mammals should be declared off limits to human exploitation. Although not modeled on this Bill, the MMPA did capture its sentiment, and supported a conservationist bias resemblant to a precautionary approach.[61] Protection was offered to all marine mammals regardless of their state of endangerment.

The MMPA placed an indefinite moratorium on the taking of marine mammals in U.S. waters, or by U.S. citizens on the high seas, and on the importation or selling of marine mammals, or of products obtained by methods involving the taking of marine mammals.[62] It did so through the creation of a protective system for marine mammals, via the prohibition of actions collectively referred to as 'taking'.[63] Defined as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill",[64] the inclusion of this term both here and in the *Endangered Species Act* of 1973 generated considerable controversy due to the potential broad interpretation of activities that constitute 'take'.[65] It was observed that

> 'taking' is so broadly defined that virtually any interaction that disturbs the natural behaviour patterns of a marine mammal is in violation of the statute or of regulations promulgated pursuant to statutory authority.

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59 Alker, S., "The Marine Mammal Protection Act: Refocusing the Approach to Conservation" (1996) 44 *UCLA Law Review* 527.

60 H.R. 6554, 92d Cong., 1st Sess. (1971); reprinted in *Marine Mammal: Hearings on the Legislation for the Preservation and Protection of Marine Mammals before the Subcommittee on Fisheries and Wildlife Conservation of the House Committee on Merchant Marine and Fisheries*, 92d Cong., 1st Sess. (1971) at 4-7 (hereafter "Marine Mammal Hearings (1971)").

61 In the teeth of this lack of knowledge of specific causes, and of the certain knowledge that these animals are almost all threatened in some way, it seems elementary common sense to the Committee that legislation should be adopted to require that we act conservatively — that no steps should be taken regarding these animals that might prove to be adverse or even irreversible in their effects until more is known.

H.R. Rep 92-707, *op. cit.* n55 at 4148.

62 MMPA, §1371(a), [s102(a)].

63 *Ibid*, §1362(13), [s3(13)].

64 *Ibid*, §1370(a), [s101(a)].

65 For example it has been suggested that whales may be "harassed" by the noise created by large ships, however these Acts had no intention of banning such operations. See Alker (1996) at 535 *op. cit.* n59.

> Virtually any interaction with marine mammals requires prior authorisation.[66]

The Department of Commerce strongly criticised the inclusion of the term take, categorising it as overly broad.[67] It argued that such a definition precluded any capture of marine mammals incidental to fishing operations. Indeed, when eventually trialled this view was affirmed by the courts who held that if a marine mammal became entangled in a fishing net, even if it was released, a 'taking' had been committed.[68] The fact that the Committee had intended the Act to be broadly applicable to a range of situations is seldom acknowledged in commentaries though. By way of example, the Committee had cited as a possible ground for prosecution for taking the "excessive" or "wanton" use of herbicides in areas that drain into manatee habitat and breeding grounds.[69] Hence, notwithstanding considerable opposition to the term, the definition of take was intended by Congress to be wide ranging and thus was not amended in the text of the final enactment.

Congress did however hold some reservations about imposing a blanket moratorium upon marine mammal capture. Political pressure for an alternate scheme, sourced primarily in the Anderson-Pelly Bill (H.R. 10420)[70] came from three directions. The executive branch viewed the Harris-Pryor Bill as unworkably narrow and restrictive, and maintained a position opposing the enactment of H.R. 6554.[71] Secondly scientists, not representing any particular interest, presented a case based on the view that man[sic.] had already interfered with, and disrupted, nature's balance.[72] They pushed for statutory acknowledgment that animal populations may consequently need active management in order to prevent them from exceeding the "carrying capacity of their

66 Smith, E., "Legal Perspectives on the Sea Otter Conflict", paper presented at *Social Science Perspectives on Managing Conflicts Between Marine Mammals and Fisheries, Conference on Management of Sea Otters and Shellfish Fisheries*, California, 9-11 January 1981.

67 Letter to Hon. Edward A. Garmatz, Chairman, Committee on Merchant Marine and Fisheries, House of Representatives from Karl E. Bakke, Acting General Counsel of the Department of Commerce, 10 September 1971. Reprinted in 1972 U.S.C.C.A.N. 4166-9.

68 *Federation of Japan Salmon Fisheries Coop. Ass'n v. Baldridge*, 679 F. Supp. 37, 40 (D.D.C. 1987), *aff'd sub nom. Kokechik Fisherman's Ass'n v. Secretary of Commerce*, 839 F. 2d 795 (D.C. Cir. 1988), cert. denied sub nom. *Verity v. Center for Environmental Education*, 488 U.S. 1004 (1989).

69 H.R. Rep 92-707, *op. cit.* n55.

70 H.R. 10420, 92d Cong., 1st Sess. (1971); reprinted in Marine Mammal Hearings (1971) *op. cit.* n60 at 13-19.

71 H.R. Rep 92-707, *op. cit.* n55. Other similar bills also rejected by the Executive included H.R 6558, H.R. 7463, H.R. 8183, and S.1315.

72 See testimony of Thomas I. Kimball, Executive Director of the National Wildlife Federation (Marine Mammal Hearings (1971) *op. cit.* n60 at 65-77).

environment and thus destroying it and themselves in the process".[73] Finally, commercial stakeholders, with public-display and fishing interests, sought several major concessions in the Act. These included a more flexible permit system than outlined in the proposed Harris-Pryor moratorium Bill.[74]

A scheme to allow regulated take was legislated for. Permits could be obtained from the Secretary of the relevant department of Commerce and Interior. Safeguards included requirements for the review of permit applications by the Marine Mammal Commission (MMC) and the Commission of Scientific Advisers established thereunder, as well as a public comment period.[75] The MMPA further directed the responsible Secretary to prescribe regulations to which permits governing the taking of marine mammals were subject, as were "necessary and appropriate to ensure that such taking will not be to the disadvantage of those species and populations stocks consistent with the purposes and policies [of the MMPA]".[76]

> In essence, the bill [gave] to the Secretaries of Interior and Commerce the authority and direction to establish general limitations upon the taking of all marine mammals, and within those limitations, to issue permits for their taking.[77]

The MMPA mandated several non-negotiable scenarios where marine mammal take was prohibited. These included where the species was taken in an inhumane manner. Species under eight months of age, pregnant or nursing were also outside the scope of the bycatch exemption and take permits.[78] Moreover, extra protection was afforded to

> certain species and population stocks of marine mammals [that] are, or may be, in danger of extinction or depletion as a result of man's activities.[79]

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73 H.R. Rep 92-707, *op. cit.* n55 at 4152. In the event the Act recognised marine mammals as part of the broader ecosystem, and noted the need to maintain the health and stability of the marine ecosystem, but failed to mandate remedial action with respect to degradation thereof (MMPA of 1972, §1361(2),(6), [s2(2),2(6)]). Moreover, in concentrating on specific species, activities and, actors, the MMPA failed to provide facilitating mechanisms to achieve habitat protection (Alker (1996) *op. cit.* n59).

74 H.R. Rep 92-707, *op. cit.* n55.

75 MMPA, §1374, [s105].

76 *Ibid*, §1373(a), [s104(a)]. This has been termed the 'disadvantage' test which must be met before takings can be permitted (see Erdheim, F. "The Immediate Goal Test of the Marine Mammal Protection Act and the Tuna/Dolphin Controversy" (1979) 9 *Environmental Law* 283). An act of unauthorised taking, regardless of intent, faced penalties of $US10,000 (H.R. Rep 92-707, *op. cit.* n55). "[T]he act of taking need not be intentional". Further, forfeiture of both vessel and cargo was allowed, and, in the case of knowing take, fiscal penalties increased twofold with an additional threat of one year jail, per violation (MMPA, §1375, [s106]).

77 Sauer, M., "Balancing Marine Mammal Protection Against Commercial Fishing: The Zero Mortality Goal, Quotas, and the Gulf of Maine Harbor Porpoise" (1993) 45 *Maine Law Review* 419 at 426.

78 MMPA, §1372(a)(3)(B) [s103(a)(3)(B)].

79 *Ibid*, §1361(1), [s2(1)].

The MMPA defined depleted as a species or population stock that was below its optimum carrying capacity within its environment.[80] If a species was found to be depleted, then the requirement that all take be consistent with the overall goals of the Act and any regulations promulgated thereunder logically precluded the granting of a permit or invocation of an exemption.

Other than these specific scenarios, Congress articulated its general marine mammal protection policy in terms of the optimum sustainable population (OSP). It mandated that marine mammals should be managed at such a level and the authorised take of a marine mammal must include in it a statement of the impact on the OSP. The MMPA thus required that when a population falls below the OSP, immediate action to remedy the situation must be taken. The OSP was defined as "the number of animals which will result in the maximum productivity of the population or the species".[81] The term was a Congressional invention however, and hence did not come with an established scientific understanding from which its requirements could be implemented.

Congress's attempt to give voice to both industry and environmentalists, and to simultaneously provide for the interests of their conflicting views, as well as scientists, led to a compromise solution with a two track strategy: a management program with a partial moratorium.[82] In so doing, Congress has been accused of enacting a statute with two incompatible, and hence unattainable, goals — critics claim that the MMPA is unable to achieve its protectionist mandate due to the existence of the conflicting goal of resource management, which hence prohibits true marine mammal protection.[83]

## A Special Case: commercial fishing and the tuna-dolphin bycatch exemption

At the time of enactment of the MMPA, the direct harvest of some animals had been addressed in international agreements. Indirect impacts on marine mammals had been poorly considered though. This changed significantly with the passage of the MMPA.

In the late 1960s a government scientist, aboard a boat, observed and reported the practice of setting on dolphin, and in so doing, brought the issue of bycatch to the

80 *Ibid*, §1362(1)(b)(2)(B), [s3(1)(b)(2)(B)].

81 *Ibid*, §1361(6),1362(8), [s2(6),3(8)].

82 Littell, R., *Endangered and Other Protected Species: Federal Law and Regulation* (The Bureau of National Affairs, Washington DC, 1992).

83 Coulston, C., "Flipper Caught in the Net of Commerce: Reauthorisation of the Marine Mammal Protection Act and its Effect on Dolphin" (1990) 11 *Journal of Environment, Natural Resources and Energy Law* 97.

public's attention.[84] Congress and the community were presented with evidence that up to 400,000 dolphins were being killed each year incidental to tuna purse-seining operations in the Eastern Tropical Pacific Ocean (ETP).[85] Even without public condemnation of such activities it is likely that the Democratic Congress would have found this an unacceptable high mortality rate. The community did reject the practice of setting on dolphins though. The media had portrayed tuna purse-seining as a needless mass slaughter of animals considered to be both intelligent and personable. This scenario was unpalatable to the U.S. public and thus once informed the public refused to condone these fishing activities. Adding to Congressional pressure to remedy this situation was the fact that almost all fishing for tuna in association with dolphins in the early 1970s was conducted by vessels of U.S. registry. Indeed the influence of public opinion upon Congress is evidenced in the inclusion in the Senate daily record of the New York Times editorial entitled "Dolphin Slaughter".

Congress was also aware of the potential impact that an immediate prohibition on the taking of dolphins may have on the tuna industry.[86] Congress believed that the technology available in 1972 was inadequate to provide for the long term goal of zero mortality. Members were concerned about job losses for crew, dock workers and cannery employees that would necessarily follow. Moreover Congress was aware that tuna provided a comparatively low cost food source and were keen to avoid any shortage in supplies thereof.[87] The Act's intention was not to "shut down or significantly curtail the activities of the tuna fleet".[88]

Thus the need to balance commercial fishing and environmental interests was at the forefront of MMPA discussions in both the Senate and the House. Representative Goodling summarised this prevailing sentiment in his statement that

> there must be an appropriate balancing of equities between the two extremes of a zero mortality rate and elimination of a commercial fishing interest.[89]

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84 Per. comm. Dr Martin Hall, InterAmerican Tropical Tuna Commission/Scripps Oceanographic Institute, San Diego (CA), 26 April 1999.

85 H.R. Rep 92-707, *op. cit.* n55.

86 *Marine Mammal Protection Act of 1972, Conference Committee Report 92-1488*, [To accompany H.R. 10420] submitted by Mr Garmatz, 92d Cong., 2d Sess. (1972), reprinted in 1972 U.S.C.C.A.N. at 4188.

87 See Sauer (1993) *op. cit.* n77; and Slade, D., "Back to the Drawing Board: Forth Amendment Rights and the Marine Mammal Protection Act" (1986) 16 *Ocean Development and International Law* 91.

88 H.R. Rep 92-707, *op. cit.* n55.

89 118 Cong. Rec. 34,643 (1972).

The trade-offs between these two interests is well demonstrated in the evolution of H.R.10420 into the MMPA. The bill as introduced did not contain a 'zero mortality rate goal' (ZMRG). Several floor amendments changed this situation. Representative Udall amended H.R. 10420 to include a five year moratorium on the taking of marine mammals. Later H.R. 10420 was amended in Senate. During a floor debate Senator Harris proposed that instead of a five year ban, an indefinite moratorium be placed upon the take of marine mammals.[90] His ongoing concern about the level of dolphin mortality caused by tuna fishers led to the introduction of a requirement that marine mammal bycatch "be reduced to insignificant levels approaching a zero mortality and serious injury rate".[91]

To combat the potential impact this may have had upon commercial fishers a two year 'breaking in' period — effectively an exemption to the moratorium — was provided.[92] This was aimed at specifically at protecting ETP purse-seiners.[93] Compliance with the two year exemption scheme's provisos regarding certain species, populations and individuals was ensured via a same duration provision placing observers onboard all fishing vessels.[94]

Congress was aware of not only the lack of appropriate bycatch reduction technology but also the inadequacy of scientific knowledge with regard to the general status of the species and the impact of individual activities thereon. They saw the MMPA as a vehicle by which to remedy the low level of general scientific knowledge on marine

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90 S.2871, reported in *Marine Mammal Protection Act of 1972, Committee on Commerce* [To accompany S.2871] No. 92-863, 92d Cong., 2d Sess. 2 (1972) (hereafter "S. Rep No. 92-863"); 118 Cong. Rec. 25,271 (1972).

91 118 Cong. Rec. 25,271 (1972). MMPA, §1371(a)(2), [s102(a)(2)].

92 MMPA, §1370(a)(2), [s101(a)(2)].

"During the twenty-four calendar months initially following the date of enactment of this Act, the taking of marine mammals incidental to the course of commercial fishing operations shall be permitted, and shall not be subject to ... this title .... Subsequently to such twenty-four months, marine mammals may be taken incidentally in the course of commercial fishing operations and permits may be issued thereof ...".

93 The House Report stated that the "Committee took pains in its consideration of this bill to see that the legitimate needs of the tuna industry were not ignored." H.R. Rep 92-707, *op. cit.* n55.

Other exception granted in the Act included takings for scientific research, and takings for public display and for Indians, Aleuts and Eskimos for subsistence take, for the selling of handicrafts, with the proviso that the take not be wasteful in nature (MMPA, §1371(b), [s102(b)]).

94 So as to ensure both the safety of observers, and accuracy of their data, the MMPA prohibited fishers from interfering with the observers. Notwithstanding this provision, such "interference" did occasionally occur, although the frequency is unknown as instances were rarely reported. Methods of harassment included direct intimidation, and more 'subtle' persuasion such as the setting of seal bombs to explode nearby observers (Kubasek, N., Browne, N., Young, M. and Hiers, W., "Protecting Marine Mammals: Time for a New Approach" (1995) 13 *Journal of Environmental Law* 1 at 6). In sum, the aspects of the Act that governed observers onboard U.S. vessels did little to assist in discouraging their interference with, and in some cases, may have actually antagonised the situation. The most problematic of the observer provisions was the granting of access, by the vessel's captain, to observer reports. MMPA, §1381(d), [s202(d)].

mammals.[95] The gulf in information is illustrated by the lack of data collected between 1959 and 1972. Information on dolphin mortality associated with fishing for ETP yellowfin tuna is available for only nine out of the 4250 fishing trips conducted by U.S. vessels in that period.[96] Thus the observer program was seen as not only useful to ensure compliance with the Act's requirements but also as a data gathering device.

Notwithstanding their inclusion of the exemption provision, Congress's intent to lower, as far a practicable, the take of marine mammals in commercial fishing operations was resolute.[97] In this regard it required that the best available bycatch reduction equipment be used.[98] Thus the U.S. tuna purse-seining fleet's exemption was conditional to the maintenance of a high technological standard. The overall effect of the Senate and House amendments was to require the U.S. domestic tuna industry to employ the best available technology with a view to reaching the ZMRG within two years.

The logic of a two year exemption was twofold. Firstly, as already discussed, it was intended to prevent the potential damage that sudden regulation may have had upon the fishing industry after years of little or no control. But it was also a reflection of Congress's confidence that scientific research would soon generate a technological solution to the problem of dolphin bycatch. This belief was nurtured by the fishing industry, representatives of which asserted that the basic techniques for bycatch reduction already existed, and that time to allow refinement and the implementation of this equipment by the fleet was all that was needed.[99] Demonstrating both their belief that a solution was at hand and their commitment to dolphin bycatch reduction, Congress allocated $US2,000,000 over a two year period to research into bycatch exclusion technology.

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95 MMPA, §1377(b), [s108(b)].

96 Smith, T. and Lo, N., *Some Data on Dolphin Mortality in the Eastern Tropical Pacific Tuna Purse Seine Fishery Prior to 1970*, NOAA Technical Memoranda NMFS-SWFC-34 (Department of Commerce, Washington DC, 1983), cited in Lo, N. and Smith, T. "Incidental Mortality of Dolphins in the Eastern Tropical Pacific, 1959-72" (1986) 84 *Fishery Bulletin* 27.

97 For example see comments by Representative Pelly that "I and every member of the committee also feel that the Department of Commerce and the commercial fishing industry should do everything which is technologically feasible to reduce the level of incidental taking to the lowest possible extent" and of Representative Dingell that "it is our purpose to minimise to the greatest degree possible the porpoise kill" at 118 Cong. Rec. 7707-09 (1972). See also H.R. Rep 92-707, *op. cit.* n55. For similar comments from the Senate with respect to their complementary legislation S. 2971 see, S. Rep No. 92-863 *op. cit.* n90. See also Erdheim (1979) *op. cit.* n76; Sauer (1993) *op. cit.* n77.

98 118 Cong. Rec. 7700-09 (1972).

99 For example see the testimony of Captain Joe Medina discussing the future of the tuna purse-seine industry in light of the results of tests of a 'medina panel' dolphin exclusion device.

> I feel in a year the whole fleet will convert over and everybody will have the new net... it is the difference between day and night. It has been a real help. We have the problem licked.

*Hearings on H.R. 10420 Before the Subcommittee on Fisheries and Wildlife Conservation of the House Committee on Merchant Marine and Fisheries*, 92d Cong., 1st Sess. (1971) at 348.

Thus Congress, firm in its belief that a technological solution was on the brink of discovery, but aware for the need for a phase of gradual implementation, provided a licensing system for the take of marine mammals, intended to be implemented at the expiration of the two year bycatch exemption. As it applied to commercial fishing operations this licensing system took the form of a regulatory system of bycatch permits with conditions imposed thereon. The Secretary of Commerce was directed, under the MMPA, to assign quotas and promulgate regulations to govern the takings of marine mammals.[100] Fishers who violated either the Act's provisions, regulations, or appended permit requirements were subject to civil and criminal penalties.[101]

In accordance with the general scheme of the MMPA, the burden of proof required to obtain a bycatch permit was that takings would not be detrimental to the species as a whole, and that "techniques and equipment" that produce the least practicable hazard to marine mammals would be utilised.[102]

> In every case, the burden is placed upon those seeking permits to show that the taking should be allowed and will not work to the disadvantage of the species or stock of animals involved. If that burden is not carried — and it is by no means a light burden — the permit may not be issued.[103]

## Agency implementation of the tuna-dolphin scheme

Notwithstanding Congress's high intended burden of proof, the practice of obtaining a bycatch permit proved to be much less onerous. At the end of the two year breaking in period afforded commercial fishers, the general permit and regulation procedures promulgated under the MMPA became applicable to American tuna fishing operators. The American Tunaboat Association (ATA)[104] applied on behalf of its members and was granted a permit with no demonstration of the statutory requirements outlined above.[105]

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100 MMPA, §1370(a), [s101(a)].

101 *Ibid*, §1375-6, [s106-7]. Fines were not to exceed $US10,000 per violation, nor imprisonment for one year and forfeiture of the violators' cargo per violation.

102 *Ibid*, §1371(a)(2), [s102(a)(2)].

103 H.R. Rep. 92-707, *op. cit.* n55 at 4151.

104 The ATA was formed in 1923 as a non profit fisheries cooperative with the purpose of representing the tuna fleet in their fee negotiations with the Mexican government. Only after the 1945 Truman Fisheries Proclamation did the U.S. government, mainly through the State Department, become involved in an effort to protect fishers' interests. It was largely to this end that the *Fishermen's Protective Act* was enacted in 1954 as a means by which to reimburse fishers who had incurred fines or had vessels seized as a result of fishing in waters declared by the littoral State to be within their jurisdiction but not acknowledged by the U.S. government.

105 Alker (1996) *op. cit.* n59 at 536. See *Committee for Humane Legislation, Inc v. Richardson*, 540 F.2d 1146-1147 (D.C. Cir. 1976).

In the period between enactment of the legislation and this 1974 expiration of the commercial fishing exemption, the community's attitude to the offshore had altered significantly. The 1973-74 Arabian oil embargo had served to refocus the public and political outlook on the environment. Concentration was directed towards issues such as recycling, and the use of renewable energy resources. Less favourably however, the crisis also encouraged a perception that laws to protect marine mammals and endangered species were obstructionist, and various efforts were made to soften or repeal this legislation.[106] For example, the *Endangered Species Act* (discussed below) was amended to create a council to allow for exemptions from the requirements of the Act under circumstances typically found in proposals for new energy facilities.[107]

Against this background, the Department of Commerce's National Marine Fisheries Service (NMFS) was required to take action to establish and enforce a quota limiting the take of dolphins in tuna fishing operations. The allocation of responsibility for the MMPA had placed the conservation of marine mammals under the two departments. NMFS, a subsidiary branch of the National Oceanic and Atmospheric Administration (NOAA),[108] was designated as the responsible agency to manage pinnipeds (other than walruses), and cetaceans;[109] and the Department of Interior through the Fish and Wildlife Services (FWS) was assigned jurisdiction over sea and marine otters, polar bears, walruses and sirenians or manatees.[110] This split was a result of the division of authority at the time of enactment, and was never intended to be a permanent arrangement.[111]

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106 Knecht et al. (1988) *op. cit.* n39.

107 *Ibid.*

108 The NOAA was been created on 9 July 1970, under President Nixon's Governmental Reorganisation Plan No. 4 and Executive Order 11564 (Reorganisation Plan No. 4 of 1970, 84 Stat. 2090).

109 MMPA, §1362(11)(A), [s3(12)(A)].

110 *Ibid*, §1362(11)(B), [s3(12)(B)].

111 Buck, E., *Marine Mammal Issues* (Congressional Research Services, Library of Congress, Washington DC, 1992) at 1; H.R. Rep. 92-707, *op. cit.* n55.

Several prominent committees recommended the merging of the various agencies with marine authority into a single civilian ocean agency (for example see Commission on Marine Science, Engineering, and Resources, *Our Nation and the Sea, A Plan for National Action,* (U.S. Government Printing Office, Washington D.C., 1969)). During the passage of the MMPA both responsible departments also offered their support for the move towards a single civilian agency (See: Letter to Hon. Edward A. Garmatz, Chairman, Committee on Merchant Marine and Fisheries, House of Representatives from W.T. Pecora, Under Secretary of the Interior, Department of the Interior, September 8, 1971. Reprinted in 1971 U.S.C.C.A.N. 4175; and Letter to Hon. Edward A. Garmatz, Chairman, Committee on Merchant Marine and Fisheries, House of Representatives from Karl E. Bakke, Acting General Counsel of the Department of Commerce, September 10, 1971. Reprinted in 1971 U.S.C.C.A.N. 4166.). The administrative structure which led to the split jurisdictional arrangement was originally a result of feuding within Nixon's cabinet, wherein no Secretary would accede to the creation of an ocean agency outside of their own department. Thus a deliberate compromise was made, where the duty to protect marine mammals was divided between the Departments of Commerce and Interior (see Laist, D. and Epting, J., "Marine Policy Evolution: A Reference Guide for Coastal Managers" (1980) 7 *Coastal Zone Management Journal* 71, for a chronological outline of marine administrative structuring developments).

*continued over page*

Indeed the Committee on Merchant Marine and Fisheries was critical of the administrative structure, stating:

> the committee is not satisfied that the jurisdictional split between agencies is helpful or useful; it retained the status quo largely upon the hope and expectations that a Department of Natural Resources would be shortly forthcoming, at which point the two programs would be merged into one.[112]

In the absence of this expected reorganisation, NOAA and NMFS have faced regular criticism. This stems from a perception that NMFS has been unable to give effect to all the requirements of the MMPA due to conflicting responsibilities for protecting marine mammals and for promoting commercial fisheries. It has been suggested that in attempting to balance these often incompatible duties, economic considerations have more often than not overridden marine mammal conservation — leaving this environmental aspect most neglected.[113]

From 1972 to 1974 information gathered by observers led to new figures which suggested that in excess of 337,000 dolphins were being killed annually in the U.S. yellowfin tuna fishery. A report released early in October 1974 by the Southwest Fisheries Science Center of NMFS, examined the impact of purse-seine fishing on dolphins.[114] It estimated that current population levels of spotted porpoises could be up to 80 percent less than the carrying capacity of the ecosystem; a figure well below the OSP. Moreover it concluded that this decrease could be attributed to the impact of purse-seining operations. Notwithstanding this assessment, in 1974 NMFS listed the status of dolphins as "unknown".[115]

In March 1973, NMFS published a notice of intent to prescribe a series of regulations. On 30 September 1974 the Secretary of Commerce issued a general permit for an unlimited number of dolphin bycatches to the ATA.[116] The permit was granted without complying to the prescribed requirements of the MMPA in that no total allowable take based on current stocks nor was an OSP provided, although a goal of 50% reduction in

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Congressional discussions with regard to an independent ocean agency or cabinet level department persisted, though none of these came to fruition. Knecht et al. have suggested that the reason behind the failure of these proposed changes was, in this later instance, largely to do with the U.S. committee system and the issue of Congressional jurisdiction. "No sub-committee chair will willingly see his or her jurisdiction shrink as a result of reorganisation" (Knecht et al. (1988) *op. cit.* n39 at 120).

112 H.R. Rep. 92-707, *op. cit.* n55 at 4146.

113 Kubasek et al. (1996) *op. cit.* n94. See FSA jurisdictional problems section for an outline of problems and conflicts that have arisen from this split jurisdictional arrangement

114 National Marine Fisheries Service, *Draft Report on Porpoise Mortality Incidental to Tuna Purse-Seine Fishing for Fiscal Year 1975* (NMFS, LaJolla, 1974).

115 39 Fed. Reg. 9685 (1974).

116 39 Fed. Reg. 32117 (1974) (as amended 40 Fed. Reg. 764 (1975)).

the mortality rate was established.[117] Individual fishers were then able to apply to the ATA for certificates of inclusion in this permit.[118] In this way, the U.S. tuna fleet's continued fishing for tuna associated with dolphins was sanctioned by the U.S. executive.

In lieu of creating a dolphin bycatch quota, the regulations introduced gear restrictions, so as to ensure that the best available technology was being used so as to prevent dolphin bycatch. Research had revealed that equipment modifications would allow for significant bycatch reduction. Even before the expiration of the exemption, NMFS drafted an interim regulation to be effective 1 March 1974 requiring the installation of a safety panel in all purse-seine nets and a variety of other alterations.[119] These however were delayed until April to allow fishers to find and install the panels, and then again due to a petroleum shortage and consequential limited supply of nylon netting.[120]

As of the issuance of the general bycatch permit, fishers were authorised to take porpoise incidental to their fishing operations so long as they complied with the requirements for modified gear and techniques. Such modifications were required as of the date the permit was effected — 21 October 1974 — and included the use of backdown, of speedboats to guide the nets, and the medina panel.[121] All holders of certificates of inclusion in the ATA's permit were also required to attend NMFS training sessions on legal obligations under the MMPA and techniques to reduce the serious injury and mortality of dolphin.[122]

In response to NMFS's lack of specification of permissible of dolphin bycatch limits, the Marine Mammal Commission issued a general warning that the current level of

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117 40 Fed. Reg. 764, 765 (1975).

118 See Application of American Tuna Association for a General Permit Under the Marine Mammal Protection Act of 1972, to Allow the Taking of Marine Mammals Incidental to Commercial Fishing (18 September 1974) (Admin. Rec. 24 January 1975); General Permit Under the Category: Encircling Gear; Yellowfin Tuna Purse Seining (NMFS, 21 October 1974) (Admin. Rec. 24 July 1975), (announced 39 Fed. Reg. 38403 (1974)).

119 38 Fed. Reg. 31,180 (1973); 39 Fed. Reg. 2481 (1974).

120 39 Fed. Reg. 2481, 20,406-20,407 (1974).

121 40 Fed. Reg. 56899 (1975).

For example 50 CFR §216.24(d)(2)(iv)(A)(1976) describes the specifications of the medina panel as follows:

> The porpoise safety panel shall be installed so as to protect the entire perimeter of the backdown area [sic] from the cutboard end of the number tree cork bunching line to the tiedown point. This panel must be a minimum of 100 fathoms in length, except that the minimum length of the panel in nets deeper than 10 strips shall be determined by a ratio of 10 fathoms in length for each strip that the net is deep ... The porpoise safety panel shall consist of small mesh webbing not to exceed 2 [inch] stretch mesh, extending from the corkline downward to a minimum depth equivalent to one strip of 100 meshes of 4 1/2 [inch] stretch mesh webbing....

122 41 Fed. Reg. 30,152-30,155 (1976).

take was unacceptably high.[123] It did, however, support NMFS's approach of prescribing no quota until more information on current dolphin levels and the OSP were obtained.[124] The MMC was formed to facilitate reviews of the operation of the program, and hence (notwithstanding the NMFS's argument for a less independent body[125]) the MMC's role was that of an independent statutory authority.[126] It was also an attempt by Congress to prevent biases toward either commercial or conservation interests and the independent structure was intended to ensure the process would not be captured by any one particular stakeholder. This arrangement was also though, a manifestation of Congress's ongoing lack of trust in the executive.[127]

> Abuses by the federal managers, if any, will be highly visible, to both the public in general and to the Commission. They will also be visible to this Committee, which proposes to maintain vigilant oversight on the program to see that it fulfils the high expectations of the Congress in bringing this program into existence.[128]

In August the following year the ATA applied for a renewal of its general permit which was due to expire on 31 December 1975.[129] Initially NMFS proposed a quota of between 50,000 and 100,000 dolphins. Unsurprising, given the 1974 Southwest Center's assessment of dolphin population status, conservationists objected to this take level. Conversely, the ATA complained that this level of dolphin bycatch was unrealistically restrictive. NMFS decided to postpone the publication of its regulations and to hold negotiations between conservationists and fishing representatives in an attempt to resolve their conflicts.[130] At a conference convened in September it became clear that the two stakeholder groups held mutually exclusive positions with respect to observer coverage and to the proposed quota. In December that year NMFS published compromise regulations. In so doing it pleased neither side.

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123 Report from John R. Twiss Jr., Executive Director, Marine Mammal Commission, to Robert W. Schoning, Director, NMFS (30 July 1974); (Admin. Rec. 24 January 1975).

124 Hyde, L., "Dolphin Conservation in the Tuna Industry: The United States' Role in an International Problem" (1979) 16 *San Diego Law Review* 665.

125 H.R. Rep. 92-707 *op. cit.* n55.

126 *Ibid.* The Commission has no regulatory authority what-so-ever, it is tasked with overviewing everything that the federal government does that may effect marine mammals and to make recommendation to the appropriate regulatory authority. This includes the NMFS, the FWS, the Dept of State, Minerals Management Service, the Coast Guard, the Navy. Per. comm. Dr Robert Hofman, Scientific Program Director, Marine Mammal Commission, Washington DC,15 April 1999.

127 Although the MMC is part of the Executive Branch of the government, it reports to Congress not the President. *Ibid.*

128 H.R. Rep. 92-707, *op. cit.* n55 at 4152.

129 See Application of American Tuna Association for a General Permit Under the Marine Mammal Protection Act of 1972, to Allow the Taking of Marine Mammals Incidental to Commercial Fishing (6 August 1975) (Admin. Rec. 9 December 1975).

130 Andersen, S., Anderson, R. and Searles, B., "The Tuna-Porpoise Dilemma: Is Conflict Resolution Attainable?" (1978) 18 *Natural Resources Journal* 505.

NMFS once again failed to specify a bycatch quota, although the renewal permit included a caveat to the effect that NMFS could set an upper limit on dolphin take if it appeared that dolphin kills for 1976 would exceed 70 per cent of the 1975 bycatch levels.[131] This perhaps stemmed from the 1975 take of dolphins having increased 37% over what it had been in 1974. NMFS also required a ten percent observer coverage. It issued statements with respect to the two most frequently captured species of dolphin, the offshore spotted and eastern spinner dolphin. The tenet of this was that neither of these species' populations were suffering greatly due to their incidental capture, nor would they benefit significantly from any change to the tuna permit.[132] Importantly, though, NMFS was unable to comment on other populations of dolphin, nor on the effect of taking on their OSP levels.[133]

## NGO Action through Judicial Challenge

Inconsistencies between NMFS's actions and the scheme of the MMPA did not go unnoticed by environmentalists. In response to the ATA's receipt of the 1975 permit, 14 NGOs united as plaintiffs and plaintiff-interveners to challenge the legality of NMFS's interpretation of the Act.[134] Environmental groups sought a court declaration that the permit and regulations allowing unlimited killing were contrary to the MMPA and hence invalid.[135]

A determination was not handed down until May 1976. In the event, NMFS offered no dispute to the assertion that it had not fully complied with the letter of MMPA procedures. The central argument of the NGOs was the lack of adherence to the MMPA with regard to the allocation of a specific quota for the incidental take of marine mammals; for NMFS, whether a lack of scientific evidence may be considered to be an extenuating circumstance, and thus excuse its failure to there comply.[136]

The ATA, as interveners on the side of the defendant (the Department of Commerce) drew upon Representative Goodling's statement regarding balancing of equities. They claimed that in light of this statement the regulations in question — and hence ATA permit — were in fact consistent with, and sought to give effect to, the legislative intent of the MMPA. The District Court of Colombia held that this was in fact a

131 40 Fed. Reg. 56899 (1975).

132 40 Fed. Reg. 41536 (1975).

133 *Ibid.*

134 *Committee for Humane Legislation v. Richardson*, 414 F. Supp. 297 (D.D.C. 1976) at 308 (hereafter "Committee for Humane Legislation").

135 The plaintiffs were the Committee for Humane Legislation Inc and the Fund for the Animals. Among plaintiff interveners was the Environmental Defense Fund.

136 Rich, B., "The Tuna-Porpoise Controversy" (1976) 1 *Harvard Environmental Law Review* 142.

misinterpretation because Representative Goodling's statement had been made in the context of the ZMRG, and was aimed at dispelling fears that this goal would be used to prohibit or restrict actions that would clearly not be to the disadvantage of the species.[137]

The tuna industry also contended that consistent with NMFS regulations, its use of the best feasible technology to prevent harm to marine mammals justified their continued operation under the MMPA irrespective of the level of bycatch. The court again disputed their claim, and held that the use of best technology alone cannot justify actions that are inconsistent with the purpose of the MMPA, and hence, non compliance would not be excused.[138] In so doing the court in *Committee for Humane Legislation Inc v. Richardson* found that the primary of the goal of the Act, was the protection of marine mammals, and that the commercial fishing industry may operate only where its activities are not incompatible with this goal.[139] Through an examination of Congressional intent Judge Richey reached the conclusion that

> [t]he MMPA does not direct the defendants to afford porpoise only that amount of protection which is consistent with the maintenance of a healthy tuna industry. The interests of the marine mammals come first under the statutory scheme, and the interests of the industry, important as they are, must be served only after protection of the animals is assured.[140]

In finding for the plaintiff the court held that following the procedures of the MMPA was a necessary step in fulfilling the purpose of protecting marine mammals. The ATA permit had violated requirements of the MMPA, in particular in relation to the 'disadvantage' test,[141] and thus had distorted the general spirit of the Act.[142] Hence the permit was declared "void as contrary to law".[143]

Moreover the court held that NMFS's failure to determine the OSP before allocating a take permit, constituted a violation of the Act. The announcement that existing populations of two species of dolphin were stable was ruled insufficient and the defense on inadequate information as irrelevant. Thus the court ordered that NMFS publish reasonable estimates of existing populations levels of all porpoise species effected by proposed regulations, the OSP of each species, and the number and type of

137 Committee for Humane Legislation.
138 *Ibid.* See also Sauer (1993) *op. cit.* n77.
139 Committee for Humane Legislation.
140 *Ibid* at 309.
141 MMPA, §1373(a) [s104(a)].
142 Committee for Humane Legislation.
143 *Ibid* at 313.

marine species authorised to be taken in each permit.[144] In light of these findings the court awarded the declaratory relief the plaintiff had sought, and ordered that the incidental killing of dolphins stop, unless and until NMFS was able to determine that such killing was not to the disadvantage of the species and as was otherwise consistent with the requirements of the MMPA.[145] This opinion however was stayed pending an appeal.[146]

## Bureaucratic Response, Industry Pressure & the Need for Better Science

Unsatisfied with the outcome in *Committee for Humane Legislation Inc v. Richardson*, the Department of Commerce as defendant took their case to the United States Court of Appeal for the District of Colombia Circuit. The previous determination was affirmed — the court of appeal concurred that the MMPA was to be administered for the benefit of marine mammals over and above all other interests.[147] The court did make one concession though. Recognising the potential dire impacts that the revocation of the permit may have had for commercial fishers, the court granted a several month stay on the invalidation of the ATA permit.[148] The expiry date was rescheduled for the first of January 1977, and thus the need for a new permit was deferred.

One opinion holds that dolphins may have also benefited from the stay placed upon the District Court of Appeal's decision.[149] The suggestion stems from subsequent discussions in Congress regarding the need for amendments to the MMPA due to its narrow judicial interpretation.[150] The court itself had directed the ATA that its concerns with regard to the impacts that direct compliance may have upon the industry, should be more appropriately directed to Congress for consideration, rather than the courts.[151] The ATA complied, redirecting much of its attention to lobbying Congress. Thus, given the mood of the time and the Congressional stirrings that arose from the court's decision, the stay of the enforcement of the Committee for Humane

144 *Ibid.*

145 *Ibid.*

146 *Committee for Humane Legislation v Richardson*, 540 F.2d 1141 (D.C. Cir. 1976) at 1151 (hereafter "Committee for Humane Legislation II").

147 *Ibid.*

148 *bid.*

149 Rich (1976) *op. cit.* n136.

150 *Hearings on Oversight of the Marine Mammal Protection Act of 1972 and on H.R. 13865, A Bill to Amend the Marine Mammals Protection Act of 1972*, 94th Cong., 2d Sess. (1976). There was however no question as to the accuracy of the court decision, and its interpretation of Congresses intent in the enactment of the statute.

151 Committee for Humane Legislation II.

Legislation decision, may have averted a Congressional overreaction in the form of extensive reductions in the regulatory protection extended to dolphins.

A more tenable benefit to dolphins was that, in order to gain the stay for the ATA, the NMFS was required to amend its regulations — in effect conceding that fixed bycatch quotas were required under the Act.[152] This led to what Robert Hofman of the MMC described as one of the "most important things that has happened under the MMPA".[153] NMFS hosted a workshop in which the OSP was interpreted as a population level between 60% of the initial or maximum stock size and the total carrying capacity of the ecosystem.[154] That is, the upper limit is the largest supportable population,[155] and the bottom of the range is the population level which will result in the greatest net increase in population numbers or biomass.[156] This means that the maximum permissible take of a species is the amount that lies in between the current population and the minimum of the OSP range.

Quantitative information collected between 1972 and 1976 from the NMFS's observer program on ETP purse-seine vessels, was analysed and this confirmed that previous estimates of dolphin mortality had been inflated.[157] Revised estimates were that less than 100,000 individuals were taken each year: approximately one third of previous figures.[158] Thus the ATA's 1976 permit placed a limit of 78,000 permissible dolphin mortalities upon the U.S. fleet (of 106 vessels).[159]

Unexpectedly, this quota was reached by late October 1976[160] and certificates of inclusion in the permit were to be rendered invalid as of 22 October 1976.[161] Before the Secretary was able to declare a halt to tuna fishing operations for the remainder of the year the district court of San Diego issued a temporary restraining order that

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152 *Ibid.*

153 Per. comm. Dr Robert Hofman, *op. cit.* n126.

154 42 Fed Reg. 12,016 (1977). See also Gerrodette, T & DeMaster, D., "Quantitative Determination of Optimum Sustainable Population Level" (1990) 6 *Marine Mammal Science* 1.

155 41 Fed. Reg. 55536 (1976).

156 This is the maximum sustainable yield. For the purposes of the OSP though this term has been replace by the phrase maximum net population (MNP).

157 NMFS' population surveys were used as estimates and from these populations sizes were calculated. "They then took the dolphin catch data and back calculated to what the historical population size would likely have been for each effected porpoise stock - thus giving them and indication of the status of the stocks." This information was then used to provide take levels. Per. comm. Robert Hofman, *op. cit.* n126.

158 Joseph (1994) *op. cit.* 28.

159 41 Fed. Reg. 23,680 (1976).

160 The filling of the quota was "due to unusually high heavy porpoise fishing" in September, see 41 Fed. Reg. 45,569 (1976).

161 *Ibid.*

precluded revocation of the general permit until the [then] ongoing litigation was resolved.[162]

In an attempt to meet the statutory requirements of the Act and to estimate the populations of various species and the impact of yellowfin purse-seining operations on them, NMFS convened a workshop of scientists in late July 1976.[163] These were to provide the basis for the 1977 NMFS dolphin bycatch regulations and a proposed dolphin quota of 29,920 individuals was released. At the time, given the available technology, this would have made fishing for tuna in association with dolphins virtually impossible for much of the season. The industry instead recommended a quota of 96,100 and the Environment Defense Fund (EDF) and MMC of 53,120 and 50,158 respectively.

Final regulations for 1977 were not ready by 1 January 1977, and the ATA sought a preliminary injunction on NMFS's halt of fishing order. This was granted, and fishing operations were recommenced.

Meanwhile NMFS promulgated an interim regulation extending the existing permit so as to allow the bycatch of 10,000 dolphins over the first four months of 1977.[164] This was one third of the NMFS proposed total quota for 1977. Following considerable procedural confusion the interim regulations were held invalid in a scathing decision by the Court of Appeals for the District of Colombia Circuit.[165] The court was critical of the lack of proper administrative arrangements.

During the first few months of 1977, while this dispute was being contemplated in Washington, DC, and U.S. vessels were prohibited from fishing on dolphins, and though fishing on logs and schools was still permitted, a reported sum of $US64 million dollars was lost from the U.S. economy.[166]

The eventual assignment in March 1977 of a NMFS dolphin bycatch quota was a compromise between NMFS's original figure and the ATA's requested quota. It saw a reduction in the permissible dolphin take from the 1976 figure of 78,000 to 59,050 for the year of 1977.[167] This figure allowed for the take of 43,000 offshore spotted dolphin and small numbers of other species. There was however no quota allocated for the

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162 41 Fed. Reg. 47,254 (1976). The final estimated dolphin bycatch for 1976 was 104,000.

163 Reported in Andersen et al. (1978) *op. cit.* n130.

164 42 Fed. Reg. 1034 (1977).

165 Court of Appeals for the district of Colombia Circuit No. 76-2168, (D.C. Cir. 3 February 1977).

166 This figure is a combination of $US50 million in direct revenue lost from U.S. vessels, and $US14 million in expenditure of U.S. canneries to purchase foreign fleet catches. See *San Diego Union*, 22 May 1977.

167 42 Fed. Reg. 12015 (1977). The district court later approved the 59,000 dolphin bycatch quota.

eastern spinner dolphin nor five other species, and thus the setting of nets around these species was prohibited. This was of particular issue to fishers due to the difficulty they faced in identifying dolphin species and the degree of error involved in such identification.

Responding in particular to NMFS's proposed zero quota for some species, the tuna fleet refused to sail. This action was motivated by the court's earlier advice to address its concerns directly to Congress, and aimed at raising both public and Congressional awareness of its plight. The ATA applied pressure to Members and Senators to amend the MMPA so as to set a permanent quota of allowable dolphin take at nearly 80,000. Its tactics were only partially successful:

> the American tuna fleet remained in port protesting the regulatory actions and attempting to pressure Congress into amending the *Marine Mammal Protection Act*. The House of Representative yielded to the pressure, passing a bill in June that would have legislatively fixed an annual quota of nearly 79,000 for 1977 and 1978. The Senate, however, refused to budge, and the industry's boycott of the fishery ended.[168]

Notwithstanding difficulty fishers still faced with regard to the zero quota species they recommenced their operations after receiving assurance by the Department of Commerce Secretary Juanita Kreps that the agency would only take action against fishers who intentionally set their nets around zero quota species. Accidental takings of small numbers would not be penalised.[169] In May NMFS officially adopted a "reasonable enforcement" policy to allow for the prohibited but unintentional take of some species. This policy provided that fishers must identify if there are prohibited species in a set by a certain point, and that if after this point in time these species are noted, then the set may continue regardless of their presence and the danger to them. The policy recognised not only the difficulties fishers faced in identifying species but also that once the net is deployed and the process of encircling dolphins and tuna is begun, that retrieval of the net in compliance with the set procedures (eg backdown etc) is less dangerous to dolphins than an attempt to retrieve an uncontrolled net part way through a set.[170] This approach was thus condoned by the both the EDF and the MMC.[171]

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168 Bean, M., *The Evolution of National Wildlife Law* (Praeger Scientific, New York, 1983) at 310.

169 Reported in the *San Diego Union*, 28 April 1977.

170 42 Fed. Reg. 64,548, 64,551 (1977).

171 These organisations agreed that an annual take of 6500 eastern spinner dolphins, the first to have this policy applied to it, would still allow populations to increase (42 Fed. Reg. 22,575 (1977)). This policy was later also applied to rough toothed and Fraser's dolphins when the quota of these species was reached (42 Fed. Reg. 42,370, 58,195 (1977), 43 Fed. Reg. 9632 (1978)).

In response to fishers' actions NMFS also revised its gross quota. In August 1977 this was increased to a figure of 62,429. Although representing a reassessment of one of the species' population status,[172] it was also a reflection of the ATA's petitioning for an extended quota to 80,707.[173] Once again although not entirely successful the ATA gained some leeway and modification of the regulations.

In the event only 24,143 dolphins were taken by U.S. vessels of register in the ETP in 1977. Whether this was a result of the late commencement of the U.S. fleet and a general good fortune that tuna were not found in association with dolphin that season, or a substantial achievement by the industry motivated to find a solution to the problem of dolphin bycatch and thus reduce the pressure upon it, is a moot point.[174]

NMFS, in an attempt to bring closure to the dispute and provide legally valid and stable quotas, staged an administrative hearing on proposed regulations for dolphin bycatch in tuna purse-seining operations from 1978 through 1980.[175] Presiding Judge Vanderheyden interpreted the Act as calling for:

1. urgency in the reduction of dolphin mortality,
2. quotas based upon technical feasibility, and
3. mandated use of the "most efficient fishing equipment and procedures."[176]

Accordingly the Judge rejected the proposed ATA quota of between 78,000 and 81,000 individuals, because the zero mortality test required a higher level of bycatch reduction, as was achievable through the use of superior equipment. In its subsequent decision regarding the ATA's ETP bycatch quota NMFS adopted the administrative law Judge's recommendations, and similarly rejected the ATA's proposed quota.[177] At the end of 1977, NMFS allocated dolphin mortality quotas of 51,945, 41,610 and 31,150 to the ATA for the years 1978 through 1980 respectively.[178] In 1980 NMFS issued a new ATA permit and associated regulations, which allowed for the take of

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172 The white-belly spinner dolphin quota was increased form 7,840 to 11,219 a reflection of updated population estimates (42 Fed. Reg. 40,230 (1977)).

173 This petition was based on increased estimates of the white-belly spinner as well as two other dolphin species (the eastern spinner and offshore spotted). The NMFS found the increase in estimates of these other two species to be insignificant.

174 Hyde (1979) *op. cit.* n124, argues that this drop was due to a concerted attempt by fishers to reduce the level of bycatch.

175 *Proposed Amendments to Regulations to Govern the Taking of Marine Mammals Incidental to Commercial Fishing Operations for the Years 1978 through 1980, Recommended Decision*, MMPAH No. 1-1977 (NMFS, Department of Commerce, 4 November 1977) (Vanderheyden, F.W., Administrative Law Judge) (hereafter 'Recommended Decision').

176 *Ibid* at 27.

177 42 Fed. Reg. 64,548 (1977) (summarising Judge Vanderheyden's Recommended Decision).

178 *Ibid.*

20,500 dolphins per annum between 1981 and 1985.[179] This, like the 1977 quotas, was based on economic and technological feasibility, while ensuring that the permissible take would not be to the disadvantage of the population.[180] By 1983 the annual dolphin bycatch was down to only 12,000 individuals per year.[181]

## Concluding Comments

After nine years of dispute, a resolution to what has become known as the tuna-dolphin controversy seemed to have been found. Research soon demonstrated that adopting certain technologies could dramatically reduce dolphin bycatches. Thus NMFS's solution to the controversy was manifest in a policy position based upon a heavy reliance on technological innovation to make possible a viable tuna industry as well as achieving the mandated requirement of bycatch minimisation. To this end early regulations relied upon gear adaptations.

The entry of the issue of dolphin bycatch onto the agenda was achieved through a series of events. It was initially catalysed by the raising of the issue onto the public and political agenda by a coalition of NGOs aided by a cooperative media. The public's staunch refusal to condone the bycatch of dolphins in tuna purse-seining operations in the ETP was instrumental in the passage of the MMPA of 1972. The strong public focus on individual species, in particular dolphins and seals, perhaps also explains why the Act was structured primarily at the species and population level, rather than focusing on habitat considerations as had been advocated by several leading scientists.

Once on the agenda, policy formation was dominated by Congress, with all other players relegated to the position of stakeholder and external to the decision-making itself. Even before the hearings commenced and notwithstanding that a total of 40 bills stood before the committee on the matter of marine mammal protection, the chair of the House Subcommittee Mr Dingell had defined the debate in terms of two options, the Harris-Pryor Bill (H.R. 5664) and the Pelly-Anderson Bill (H.R. 10420).[182] In the event, the latter prevailed and was passed in an amended version into law as the *Marine Mammal Protection Act* of 1972.

179 45 Fed. Reg. 72,178 (1980).

180 45 Fed. Reg. 72,179-180, 72,185 (1980).

181 Edwards, E. and Perkins, P., "Estimated Tuna Discards from Dolphin, School, and Log Sets in the Eastern Tropical Pacific Ocean, 1989-1992" (1998) 96 *Fishery Bulletin* 210.

182 Mr Dingell Chair of the House of Representatives Committee on Merchant Marine and Fisheries Sub-Committee on Fisheries and Wildlife Conservation. Opening Speech at the Marine Mammal Hearings (1971) *op. cit.* n60.

As in several other cases the legislature provided only a policy goal, without the means with which to achieve this. Other than providing a two year exemption to the fishing industry Congress abrogated any policy direction on how to achieve the zero mortality goal it had championed. Even in this regard though the message was mixed. Although the MMPA called for the elimination of marine mammal bycatch, it has been said to ostensibly provide a means by which to regulate these incidental captures - that in effect, rather than limiting the amount of bycatch, a system which promoted permits for takings and provided for exemption from prosecution was established.[183] Indeed the scheme implemented by NMFS differed somewhat to that conceived and intended by Congress.

NMFS's regulatory approach of sharply decreasing annual quotas has been analysed as a response to a combination of factors:

1. a limited budget for the protection of marine mammals,
2. pressure from the tuna industry to find technologically based solutions, and
3. continuing pressure from NGOs for the imposition of lower take limits.[184]

These multivariate influences affected the form of instrument NMFS selected, and the instrument selected perpetuated ongoing reassessment of the details of its application.

> The history of the implementation of the MMPA and of its regulations regarding the tuna industry reflects a periodic oscillation between strict regulation and an enforcement policy characterised by stays, postponements, and compromises. This oscillation has resulted from the battle between conservationists, advocating strict adherence to the MMPA, and the tuna industry, armed with economic policy arguments supported by the industry's money and influence.[185]

Thus the long term impact of this was a continual process of policy re-formulation and re-implementation. It was in this process that the stakeholders once again assumed a central position. NGOs, agencies, industry - often action through the judiciary - featured prominently. Congress's only real input was to refuse to accede to the tuna industry's demands. It is however important to recall both that a refusal to act is a significant policy stance, and that this phase of reassessment provided only incremental changes to Congress's original policy.

In response to the bureaucracy's attempts to alter the policy on tuna-purse-seining bycatch via its powers of enforcement and implementation, environmental NGOs assumed a role of watchdog. In this role they attempted to ensure that the enacted policy, that they had worked so hard to achieve, be implemented. And in the absence

183 Alker (1996) *op. cit.* n59 at 536.

184 Andersen et al. (1978) *op. cit.* n130.

185 Hyde (1979) *op. cit.* n124 at 679-680.

of a clear indication to the contrary Congress's actions were legally interpreted as a prioritisation of bycatch minimisation over and above the industry's welfare. Thus legal opinion largely concurred with environmentalists' position; the court repeatedly found that the agency's implementation of the MMPA was inadequate. One author has suggested that the opinion of the court failed to take into account that Congress was convinced of the proximate development of a technological fix and hence did not anticipate an absolute choice between dolphin and the tuna fishery when the exemption expired.[186] Progressing this thought there is an inherent implication that the courts have thus taken on a significant law and policy making role through their strict interpretation of the MMPA.

With neither Congress nor the judiciary sufficiently sympathetic to their cause the industry lobby failed to achieve its aim of unaltered fishing practices. Though having no consistent allies, the ATA was not altogether unsuccessful. Significant concessions were gained by the industry in the Congressionally dominated policy formation stage, and from the regulatory agency during implementation. Indeed, the ATA managed for several years to stall the introduction of dolphin bycatch limits, buying the industry time for the development of dolphin bycatch reduction technology and techniques.

Several high profile protests did little to further the industry's cause. Perhaps aware of the level of public concern, Congress refused to amend the Act. In combination with the courts' a strict interpretation of the MMPA, opponents to the zero mortality goal were left with scant avenues of protest. NMFS, tired of the conflict resolved to affect a solution. A combination of legal advice, scientific assessments and technological advances provided NMFS with the tools needed to lower the dolphin quota to a figure acceptable to NGO while still allowing for a viable U.S. tuna harvesting industry.

## 3.5 The Internationalisation of the Tuna-Dolphin Controversy

### Foreign Fisheries Management under U.S. law

The need for revised federal fisheries conservation and management legislation arose, in part, out of inadequate control over foreign fishing operations.[187] The combined

186 Rich (1976) *op. cit.* n136.

187 Miller, M.M., Hooker, P. and Fricke, P., "Impressions of Ocean Fisheries Management Under the Magnuson Act" (1990) 21 *Ocean Development and International Law* 263. In their sixth annual report the National Advisory Committee on Oceans and Atmosphere (NACOA) (established through the National Advisory Committee on Oceans and Atmosphere Act 1971) expressed concerns over increasing international efforts to use and develop ocean resources, including those off the U.S. coast. Released just prior to the passage of the new legislation, found that the U.S. was

*continued over page*

effects of growing product demand, advanced technology, and the decline of fish stocks in other parts of the world, had triggered an unprecedented catch effort in the waters adjoining the U.S.. By the mid 1970s it had become apparent that the patchwork of international treaties, voluntary agreements, and individual State laws governing fisheries was unable to prevent rampant overfishing. As a consequence, from 1967 the catch rate of many target fish species began to plunge.[188]

Following this trend, the participation of foreign fleets began to increase in the ETP tuna purse-seining fishery in the 1970s, and thus the problem of dolphin bycatch became an international one.[189] NMFS estimated that, in 1975, more than one quarter of dolphins killed in the ETP were as a result of foreign fishing operations, and moreover that a substantial increase in foreign fleet involvement could be expected.[190] This expansion was not only an increase in participant nations, but also a geographical expansion in the area fished. Increasingly the main catch came from high seas waters, and as the market for the product began to expand, European and Latin American canneries emerged.[191]

General concerns over the impact of foreign fleets on the catch productivity of U.S. interests led to moves to reduce foreign operations through the declaration of a 200nm Fisheries Conservation Zone (FCZ).[192] Notwithstanding the presumed benefits of extended jurisdiction, the Congressionally driven creation of a 200nm FCZ came under strong criticism from both President Ford and the Department of State.[193] Moreover,

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ill-prepared to address this challenge not because of a lack of appropriate ocean programs and authorities, but rather because the existing elements are sometimes in conflict with each other or are vague and because of a lack of mechanisms to integrate these authorities into an overall marine strategy (cited in Miller et al. (1990)).

188 *Reauthorisation of the Magnuson Fisheries Conservation and Management Act of 1976: Hearing on H.R. 2061 before the Subcommittee on Fisheries and Wildlife Conservation and the Environment of the House Committee on Merchant Marine and Fisheries*, 101st Cong., 1st Sess. (1989) at 69.

189 Per. comm. Dr Martin Hall, *op. cit.* n84.

190 Hyde (1979) *op. cit.* n124.

191 Hall, M., "Strategic Issues in Managing Fishery Bycatches", in *Solving Bycatch: Considerations for Today and Tomorrow*, Alaska Sea Grant College Report No.96-03 (University of Alaska, Fairbanks, 1996) pp.29-32.

192 Regionally both Canada and the U.S. had expressed concern over stock decreases and ghost fishing in the Northwest Atlantic. Hanna, S., "Magnuson Fishery Conservation and Management Act: Retrospect and Prospect" (1996) 9 *Tulane Environmental Law Journal* 211 at 211.

193 Senate Committee on Commerce, 94th Cong., 2d Sess., *A Legislative History of the Fisheries Conservation and Management Act of 1976*, (Comm. Print 196) at 1094-95, cited in Warner (1983) *op. cit.* n35 at 102.

Internationally, negotiations for UNCLOS III had begun to consider the issue of extended coastal State jurisdiction. The instigation of a regime of 200nm Exclusive Economic Zones (EEZs) over which littoral nations exercised sovereign control was being pursued as a potential remedy to the inadequate management of the vast high seas living resources, and in this regard compromise solution was reached between the U.S.S.R. and the NATO countries including the U.S.. Combined, the U.S.'s acceptance of this trade-off, and the plethora of unilateral extensions of zones of exclusive jurisdiction made Congress's move to create a FCZ possible. Miles and Fluharty (1991) *op. cit.* n2 at 317.

there was considerable disagreement within the fishing industry with regard to the merit of extended U.S. jurisdiction. Although by expanding its territory many U.S. fishers benefited, there was also a real fear that current high seas operations would be severely curtailed. The U.S. distant water fleet faced the loss of a substantial amount of its fishing grounds if other nations were encouraged to follow suit with mirror declarations. Thus in hearings for the *Fisheries Conservation and Management Act* (FCMA), the ATA opposed the extension of jurisdiction on the ground that the U.S. would then not be able to protest similar action by other nations as it had done in the past.[194] Although not achieving its desired result, the tuna lobby, and in particular those with distant water fishing interests, did manage to secure the protection of their interests.[195]

Congress resolved the matter by denoting highly migratory species as exempt from federal fisheries provisions that applied to the more sentient species.[196] This was done so as to ensure continued international management of tuna species, in particular in the coastal waters of foreign States where U.S. distant water fishers operated. The FCMA further reserved the right to not recognise the fishing zones of other nations where these coastal States fail to recognise that tuna species are to be managed by international fisheries agreements.[197]

Intended to avoid catch restriction on U.S. fishing rights this management structure stemmed from the 1940s Truman Fisheries Proclamation. This was not, as it has oft been portrayed, derived from a philosophical belief in the freedom of the high seas, but rather ensured that the rights of U.S. distant water fishers to harvest tuna off the coast of South America would not be impinged upon should these nations make similar declarations. As commented by Hollick, the situation on the South America continent was considerably different to that of the U.S..

> The requisites of the fishing industries in other countries of the Western Hemisphere did not coincide with that of the United States. While U.S. tuna fishermen had operated off South American shores since the 1930's ... most Latin American nations fished only off their own coasts. Thus they were not attracted to a declaration of national jurisdiction that

194 August Felando, General Manager ATA expressed their opposition to the extension of U.S. jurisdiction before the appropriate House and Senate Committees in 1974. See Wolff, T., *In Pursuit of Tuna* (Arizona State University, Arizona, 1980) at 129.

195 Wade, S., "A Proposal to Include Tunas in U.S. Fisheries Jurisdiction" (1986) 16 *Ocean Development and International Law* 255.

196 Section 103 reads "The exclusive fishery management authority of the United states shall not include, nor shall it be constructed to extend to, highly migratory species of fish". This unique definition of highly migratory species as tunas ignores other species such as billfish, so that these remain under unilateral management. Joseph, J. and Greenough, J. *International Management of Tuna, Porpoise, and Billfish* (University of Washington Press, Seattle, 1979) at 178.

197 FCMA, §1822, [s202].

> provided for reciprocity in recognising the rights of established foreign fishermen off their shores.[198]

Indeed in later years a similar sentiment was expressed in Congress itself. Congressman McCluskey before the House of Representatives remarked on the counterproductive nature of a tuna embargo and on its

> incredibly deleterious and dangerous impact upon our relationship with friendly nations who understandably resent what appears to them to be an arrogant and imperialistic policy, to wit: what is within our 200-mile zone is ours but what is within your 200-mile zone is ours, too, if it is tuna.[199]

Broader issues than the total annual catch also required consideration though. These included concerns whether other nations were likely to establish exploitative and unsustainable management systems within their FCZs, and the broader ecological implications of such a move. In this way the exclusion of tuna from national jurisdiction represented a prioritising of catch maximisation over and above the reduction of bycatch which, had the U.S. claimed exclusive rights over all resources within its FCZ, could have been more effectively regulated as an issue of U.S. jurisdiction.

In the event this was not of particular issue as the phasing out of foreign fishing in the U.S. FCZ was rapid and with regard to domestic vessels the MMPA largely filled these gaps. With mind to the issues of conservation Congress maintained the arrangement whereby domestic standards imposed under the MMPA applied to all U.S. harvesters on the high seas and all vessels operating in U.S. waters.

Attempts to extend these provisions to foreign nations operating on the high seas were affected through two mechanisms. Firstly the MMPA required that negotiations be undertaken to encourage the development of an international convention.

> Congress has recognised that marine mammals are essentially an international resource, and thus require the protection of countries other than the United States. United States fishermen are primarily responsible for the porpoise mortality level; however the percentage of porpoise killed by United States fishermen is decreasing steadily as other countries increase their fishing activities in the eastern Pacific. Perceiving this situation, Congress included international cooperation as an essential element of its overall plan for the protection of marine mammals.[200]

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198 Hollick, A., "The Roots of U.S. Fisheries Policy" (1978) 5 *Ocean Development and International Law* 61 at 67.

199 Cong. Rec. H839128 (11 March 1982).

200 Gordon, M., "International Aspects of the Tuna-Porpoise Association Phenomenon: How Much Protection for Poseidon's Sacred Messengers?" (1977) 7 *California Western International Law Journal* 639 at 652.

Congress was convinced that rapid technological advancement would soon lead to the development of equipment that would allow for the elimination of dolphin bycatch in the ETP. It was hence keen that international arrangements be established to ensure the widespread implementation of this equipment. Moreover, as stated, Congress wished to ensure that the U.S. fleet would not be disadvantaged by having a higher technological burden placed upon it than upon its international competitors. Thus Congress directed the Department of State to negotiate with the aim of effecting voluntary international compliance with domestic U.S. bycatch reduction measures.[201]

In case negotiations did not achieve the desired result, Congress also enacted section 101(c). Hereunder the Secretary of Commerce was directed to

> prohibit the importing of fish caught outside the United States where fish were caught by techniques which the Secretary concludes are injurious to marine mammals. Fleets of tuna fishermen already catch tuna fish by catching porpoises in the process. ... If foreign fleets elect to continue to catch tuna fish by these methods, this section will close the United States market to the tuna fish caught in this fashion.[202]

In July 1975 the U.S. sent inquiries to governments whose nationals fished for yellowfin tuna in the Atlantic and Pacific Oceans.[203] Based on the lack of information available the NMFS required that, as a condition of certified under the MMPA, nations provide detailed data on their incidental take to the U.S..[204] This information was to be collated so as to provide an indication of the impact of purse-seining fleets on dolphin populations.

These provisions applied also to operation in the waters of the country in question. Thus before a foreign nation's tuna could be imported, the government of the exporting nation was required to certify that the tuna was not caught by methods prohibited in the U.S..[205] As of January 1975 NMFS had certified both Canada and Denmark as being in compliance with U.S. standards in regard to the take of marine mammals.[206]

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201 MMPA, §1361(4), 1378, 1381(c), 1383 [s2(4), 109, 111(c), 113].

202 H.R. Rep. 92-707, *op. cit.* n55 at 4156.

203 41 Fed. Reg. 30,152, 30,160 (1976). Only five nations responded. Canada and Mexico both indicated that they used safety panels and backdown procedures, but that no research programs were underway. And the other three states (the Ivory Coast, Nicaragua and South Korea) responded that their vessels did not fish on dolphins.

204 42 Fed. Reg. 12,015, 12,020 (1977).

The only other studies that had been undertaken were (1) a 1974 IWC Subcommittee on Small Cetaceans review of the biological geographical and fisheries status of each of the smaller cetaceans; and (2) a FAO Advisory Committee on Marine Resource Research ad hoc group on small cetaceans and sirenians 1976 Report entitled *Mammals in the Sea* which categorised four ETP dolphin species as in urgent need of population assessment.

205 MMPA §1372 (c), [s101 (c)].

206 40 Fed. Reg. 819 (1975).

In 1976, when the U.S. district court invalidated NMFS's regulations, the importation of tuna caught in association with dolphins was, by implication, also prohibited.[207] Subsequently foreign vessels were subject to the same series of stays and allowances as were imposed on the U.S. fleet. When NMFS promulgated the 1977 regulations foreign fleets were provided with a three month period of grace so as to allow them to obtain the correct gear and for their governments to obtain certification. The effective date of these regulations, initially the first of June, was extended four times, and eventually became active more than six months later, on December 31.[208]

This delay was justified as an attempt to prevent the interruption of the flow of tuna products into the U.S., and emphasized that in all States the modifications necessary to achieve certification were underway.[209] Also of consideration in granting these postponements was the impact that banning tuna imports may have upon negotiations underway at the Inter-American Tropical Tuna Commission (IATTC), where an international resolution for the bycatch of dolphins in ETP fisheries was being sought (discussed below).[210] It was anticipated that a resolution in this forum and compliance by participating nations would make them eligible for certification under U.S. law.

By October 1978 more than a dozen nations had been certified under the MMPA.[211]

> When they [embargoes] were emplaced there was a lot of bitterness, and many of the nations believed the embargos to be protectionist actions. The perception of these nations was that they were not for dolphins, they were for the advantage of the U.S. vessels and industry.[212]

## The Inter-American Tropical Tuna Commission

The subject matter of the MMPA clearly overlapped with the responsibilities of the Inter-American Tropical Tuna Commission (IATTC).[213] To recall, the U.S. had specifically excluded tunas from the management jurisdiction of the FCMA and hence under U.S. domestic laws it was considered a legitimate topic for international governance. Acknowledging IATTC (of which the majority of ETP States were at the

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207 41 Fed. Reg. 21,782-21,783 (1976).

208 42 Fed. Reg. 12, 015, 24,742, 39,394, 54,294 (1977).

209 Canada, Ecuador, Mexico and the Netherlands Antilles were by and large in compliance with U.S. standards. Costa Rica, Nicaragua and Panama had indicated intent to comply and undertaken efforts to achieve conformance. Bermuda, Peru, Senegal, Spain and Venezuela's positions were still unclear (42 Fed. Reg. 54, 294 (1977)).

210 Hyde (1979) *op. cit.* n124.

211 42 Fed. Reg. 56,617, 64,121 (1977), 43 Fed. Reg. 1093, 3566, 5521, 31,144, 36,263, 40,025 (1978).

212 Per. comm. Dr Martin Hall *op. cit.* n84.

213 The Inter-American Tropical Tuna Commission Convention, 80 U.N.T.S. 3 (1949) (hereafter "IATTC").

time members) as the appropriate forum for the multilateral consideration of issues concerning tuna, the MMPA directed the U.S. government to

> seek, through negotiations within the IATTC, the cooperation of other governments in reducing porpoise mortality to the maximum extent feasible.[214]

The IATTC treaty had been entered into in 1949 between the Republic of Costa Rica and the United States. It was concluded around the same time as a U.S.-Mexican bilateral treaty.[215] Both agreements reflected the problems the U.S. was encountering with reduced access to distant water fisheries and vessel seizures off the South American coast.[216] The ETP conventions were designed to manage expanding U.S. interests in tuna harvests. IATTC was specifically established to study tuna and tuna like species of the eastern Pacific and to provide advice and recommendations for the responsible exploitation of the resource. Whilst the Mexican treaty was never activated, the agreement with Costa Rica grew in regional influence and membership, and resulted in the establishment of IATTC.[217] Subsequent to Mexico joining IATTC in 1964 the Commission was designated as having jurisdiction over approximately 8 million square miles of "Yellowfin Regulatory Area" where the bulk of purse-seining in the ETP occurred.

Although the purpose of IATTC was to conduct studies on tuna and to make recommendations to member nations based upon these studies, by association the Commission had the scope to consider the incidental take of dolphins.[218] Thus the U.S. sought to engage IATTC members in the goal of dolphin bycatch reduction.

> The U.S. Commissioners to the IATTC have sought such cooperation and have requested that the Commission initiate its own program aimed at reducing porpoise mortality. In response to these U.S. efforts, the Commission at its 1975 meeting in Washington D.C., instructed the Director of Investigations to prepare a report dealing with [the] porpoise

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214 *The Tuna-Porpoise Relationship and the Inter-American Tropical Tuna Commission* (unpublished background paper, IATTC c/o Scripps Institute of Oceanography, La Jolla California, Prepared for the annual IATTC meeting in Managua, Nicaragua, 1976).

215 Convention for the Establishment of an International Commission for the Scientific Investigation of Tuna, 99 UNTS 3 (1948).

216 For example in September 1946 the Mexican coast guard ceased seized two U.S. vessels reported fishing illegally in Mexican waters. Further seizures of U.S. vessels occurred in the January and April of 1947, and for several years following Mexico periodically seized U.S. fishing vessels which it claimed were illegally fishing in its waters. The impact of this upon the U.S. fishing industry is perhaps best reflected in the U.S. government's enactment of provisions whereby U.S. fishers would be compensated for any fines they faced under Mexican laws. Hollick (1978) *op. cit.* n198 at 62.

217 Although the Mexican-U.S. bilateral agreement was not officially terminated until 1965.

218 IATTC, Article II, para 5.

mortality problem to be presented at its 1976 meeting in Managua, Nicaragua.[219]

At the 1976 IATTC meeting the Commission decided to adopt responsibility for the goal of minimising dolphin bycatch in addition to its extant and potentially conflicting responsibility for the maximising of tuna harvest. The Commission agreed on three objectives:

- maintaining a high level of tuna production;
- conserving dolphin stocks at levels that would assure the survival of each species; and
- avoiding needless or careless killing of dolphins.[220]

At a special meeting in June 1977 IATTC reviewed this proposal and unanimously resolved to begin studying the tuna-dolphin association and its effects on the MSY of the target yellowfin tuna.[221] Subsequently, a program aimed at establishing the extent of dolphin bycatch, the impact of purse-seining operations on dolphin populations, and ways to reduce dolphin mortality, was formulated. The plan intended to:

1. address the problem of dolphin mortality through the establishment of a dolphin management and protection program, and
2. facilitate better decision-making via the collection of scientific data.

To assist in the collection of data an observer program was initiated. Funds to implement this program did not become available until 1979 though, and consequently no non-U.S. vessel data exists prior to this date.

The dolphin management and protection program was somewhat more contentious. It took ten years from 1976 for the initiative to gain the support of all IATTC countries. Conflict arose primarily due to unreconcilable stances of the South American nations who refused to recognise the U.S. position on tunas, and the U.S.'s domestic invalidation of their declarations of jurisdiction over all living resources in their waters. In 1977 Mexico and Costa Rica called a plenipotentiary conference to discuss the creation of a new regime over tuna management which recognised the preferential right of littoral states over all living resources including highly migratory species of tuna. The allocation of such rights, and the fee structure to be established were the two essential issues on which IATTC nations could not agree. The U.S tactic to amend rather than

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219 *The Tuna-Porpoise Relationship and the Inter-American Tropical Tuna Commission* (unpublished background paper, IATTC c/o Scripps Institute of Oceanography, La Jolla California. Prepared for the annual IATTC meeting in Managua, Nicaragua, 1976).

220 See *Summary Minutes of the 33rd Meeting of the Inter-American Tropical Tuna Commission, Managua, Nicaragua, October 11-14, 1976* (IATTC, La Jolla, 1976).

221 See *Minutes for the 34th Meeting of the Inter-American Tropical Tuna Commission, La Jolla California, June 27-29, 1977* (IATTC, La Jolla, 1977), Resolution at V app. Ref: 8274-154-160.

completely renegotiate the IATTC drew threats from the two initiating nations to withdraw entirely. Resignation becomes effective one year after it is tendered. In 1978 Mexico withdrew and the following year Costa Rica followed suite, subsequent to which U.S. vessels fishing in the waters of these nations without permits were repeatedly seized by authorities.[222] In response to Mexico's seizure of six of their tuna vessel the U.S. invoked the FCMA embargo provision.

Tuna harvesting rights and quotas hence caused an apparently insurmountable impediment to the multilateral management of dolphin bycatch in the ETP. With import sanctions already in place the U.S. had little persuasive leverage available. Closure of the international issue of dolphin bycatch at this stage appeared to be reached. And without Mexican involvement the creation of a protective regime under the auspice of IATTC provided only a partial remedy.

## Concluding Comments

A coupling of broad concerns over foreign overfishing, with a desire to re-establish conservation as a basic goal of U.S.'s fisheries management led to the enactment of a new federal fisheries statute.

As well as providing for improved fisheries management the FCMA extended U.S. jurisdiction over living resources out to 200nm. This expansion although providing for an increased domestic fishing range, also had a very real potential to negatively impact upon U.S. distant water fleets. Thus tuna species were excluded — on the basis of their highly migratory nature — from the territorial claim. There is no doubt that this exclusion was aimed primarily at softening some of the effects of extended jurisdiction on U.S. distant water fishers.

Still displaying a genuine recognition of the need for better controlled fisheries exploitation the U.S. also assumed increased influence over high seas fisheries. This was to be effected by a requirement to negotiate, and the imposition of trade sanctions on nations who did not conform with U.S. conservation standards. With dolphin bycatch firmly on the domestic agenda, moves towards the global cessation of such activities were seen as a necessary political and moral move. Moreover the U.S. had little choice but to try and appease their own fishers by leveling the playing field between them and their foreign competitors. Whilst unilateral responses to the international problem of dolphin bycatch in the ETP were never considered adequate to resolve the problem, the U.S.'s control of a large percentage of the yellowfin market

222 Wade (1986) *op. cit.* n195.

did play a major role in encouraging other States to implement dolphin conservation programs.

A preferred means by which to extend U.S. tuna purse-seine policy was through the creation of international standards. Negotiations with respect to the issue of tuna-dolphin bycatch were handled through an extant body — IATTC. IATTC accepted responsibility for the international management of dolphin bycatch in ETP tuna purse-seining operations. It did not however indicate any intention to impose quotas upon dolphin bycatch. And, although having made some headway, two issues plagued the development of effective bycatch policy within the IATTC framework. The first of these was the problem of insufficient information, and the second the influence of a controversial side issue.

## 3.6 Endangered Species Legislation and Sea Turtle Protection

### The ESA and Bureaucratic Delays in Sea Turtle Listings

A decline in sea turtle populations and increase in strandings along the Atlantic coast, was first widely recognised as a problem requiring policy attention in the early 1970s.[223] Soon hereafter the *Endangered Species Act* (ESA) was enacted and it became recognised as the "only protection against a complete loss of sea turtle in the United States".[224] Unlike many other species listed under the ESA, sea turtles however were part of a valuable commercial fishery.[225] Thought the take was not thought to be high, even as recent as the early 1970s sea turtles were legally harvested in U.S. waters for their highly valued meat, shell and skins.[226] One method of capture was as bycatch to shrimp trawling operations. Once captured in a trawl net sea turtles are unable to surface. If the length of the tow time exceeds the turtle's 90 minute diving capacity then it will drown.[227] While sea turtle populations were healthy and the shrimpers few and fishing effort low, the incidental capture of sea turtles and their commercial sale

223 In addition in a to a decline in the population of sited turtles, there was an observed reduction in nesting populations and large numbers of dead, stranded sea turtles. Per. comm. Dr Jack Frazier, Research Associate, Conservation and Research Centre, Smithsonian Institute, Virginia, e-mail communication 22 August 1999.

224 Weber, M., Crouse, D., Irwin, R. and Iudicello, S., *Delay and Denial: a Political History of Sea Turtles and Shrimp Fishing* (Center for Marine Conservation, Washington DC, 1995) at 2.

225 *Ibid.*

226 Witzell, W., "The Origin, Evolution, and Demise of the U.S. Sea Turtle Fisheries" (1994) 56 *Marine Fisheries Review* 8.

227 The figure of 90 minutes is a broad generalisation, dependent upon the species as well as the individual sea turtle. Per. comm. Dr Jack Frazier *op. cit.* n223.

caused little apparent concern.[228] However with the expansion and intensification of the industry and the decline of sea turtle populations along with a dramatic increase in strandings, the catch and bycatch of turtles in shrimp trawling operations became an issue of policy and political concern.[229] The issue, as in previous cases, was not only the reduction of turtle bycatch, but also how to do so while sustaining a viable shrimp fishery.

The shrimp fishery has the highest product value of any U.S. fishery.[230] There are about 30,000 shrimpers nationwide most of whom are from the Gulf states from Texas to western Florida, and many times that number are employed in product processing and marketing.[231] The industry is composed of a complex of fisheries extending from Cape Hatteras in North Carolina, to the Mexican boarder in the Gulf.[232] Profiles indicate that the distribution is such that approximately 92 percent of the total effort occurs in the Gulf of Mexico.[233] About one third of operations are nearshore, and two thirds offshore. Seaward distance of primary catch from the coastline is not uniform between states however. In Texas, Georgia and Florida more than 75 percent of shrimp landings come from waters more than 3 miles offshore.[234] The opposite situation prevails in Louisiana, North and South Carolina, Alabama and Mississippi (states that have extensive lagoons and shallow water areas) where 60 or so percent of the shrimp catch is in the 3 mile waters.

During the 1970s it became clear that in order to achieve economic success in the shrimp fishery a drastic reduction in the effort, and the number of active vessels, was needed.[235] Moreover, increased fuel costs had resulted in a rise in the production costs. The exclusion of U.S. shrimpers from rich Mexican waters, virtually unused by the

228 The depletion of sea turtle populations had been raised in some circles up to one hundred years earlier in regard to the over-exploitation of sea turtles in (for example) the Texas turtle fishery. See Witzell (1994) *op. cit.* n226.

229 Weber et al. (1995) *op. cit.* n224.

230 In 1986 a nationwide catch of more than 400 million pounds was valued at $US663 million. More than three quarters of this came from the Gulf of Mexico and two thirds landed in Louisiana or Texas. Conner, D., "Turtles, Trawlers, and TEDs: What Happens when the Endangered Species Act Conflicts with Fishermen's Interests" (1987) 7 *Water Log* 3 at 4.

231 Seven species of shrimp are harvested in the U.S.: brown shrimp, white shrimp, pink shrimp, seabobs, royal red shrimp, rock shrimp, and trachs. Each shrimp is taken by a distinct fishery , and several fisheries are differentiated according to fishing depth, seasonal landings, vessels and gear, fishing localities, fishing techniques, and other characteristics. (National Academy of Science (NAS), *Decline of the Sea Turtle: Causes and Prevention* (National Academy Press, Washington, DC, 1990).

232 Before Mexico closed its EEZ to U.S. fishers, shrimpers from Florida and Texas regularly trawled in Mexican waters.

233 NAS (1990) *op. cit.* n231.

234 Conner (1987) *op. cit.* n230.

235 Gulf of Mexico Fishery Management Council, *Fishery Management Plan for the Shrimp Fishery of the Gulf of Mexico, United States Waters* (Gulf of Mexico Fishery Management Council, Tampa, 1981).

industrialised Mexican fleet, greatly reduced the resource base available to the U.S. fleet. And a decline in the demand for the U.S. product due to increased competition from cheap foreign imports had led to depressed prices.[236] Around this time an influx of Vietnamese migrants into both the U.S. and the shrimp industry occurred. Instead of effort reduction, this resulted in increased effort in the fishery industry and greater pressure on shrimp resources.[237] By 1980 the situation had deteriorated such that the Secretary of Commerce declared the shrimp fishery to be in a critical situation.[238]

It was through this period that the problem of shrimp-turtle bycatch was first raised and required redress. Government agencies — prodded by environmental NGOs — had identified the declining number of sea turtles and the link between this phenomena and the activity of shrimp trawls in the late 1960s. On 2 June 1970 the hawksbill and leatherback sea turtles were listed as endangered throughout their ranges, and in December the Kemp's Ridley sea turtle was similarly listed.[239] Listing occurred under the 1969 the *Endangered Species Conservation Act*,[240] an amendment to the *Endangered Species Preservation Act* of 1966.[241] This earlier Act had cleared the way for federal endangered species protection by legislating for Washington's involvement in conservation, a task previously considered to be a state function.[242] In 1969 the *Endangered Species Conservation Act* recognised the global nature of the problem and amended the earlier Act so as to allow the listing of, and restriction of trade in, fauna species in danger of worldwide extinction.[243] Neither Act provided for the comprehensive protection of listed species though. For example, the 1966 Act's policy

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236 Figures vary but all reports agree that there has been an escalation in the importation of foreign shrimp from the 1970s through the 1980s. One author reports that 48% of shrimp consumed in The US was imported in 1977 and by 1989 this had increased to 72% (Weber et al. (1995) *op. cit.* n224). An alternate source states that in 1980 31% of fresh shrimp sold in the US was imported. By 1989 this figure had risen to 72%. Roberts, K., "Shrimp Imports ... Out of Control?" (1990) 1 *Commercial Fisherman* 9.

237 Weber et al. (1995) *op. cit.* n224. From 8074 in 1970 to 13042 in 1986.

238 Durrenberger, P., "Shrimpers and Turtles on the Gulf Coast: The Formation of Fisheries Policy in the United States" (1988) 1 *Maritime Anthropological Studies* 196.

239 Green Turtle as listed on 13 October 1970 under 35 Fed. Reg. 16047 (1970); Hawksbill and Leatherback turtles listed on 2 June 1970 under 35 Fed. Red. 8495 (1970), The Kemp's ridley listed on 2 December 1970 under 35 Fed. Reg. 18320 (1970).

240 *Endangered Species Conservation Act* of 1969 (Pub. L. No. 91-135, 83 Stat. 275).

241 *Endangered Species Preservation Act* of 1966 (Pub. L. No. 89-669, 80 Stat. 926).

242 The limited nature of federal involvement had been confirmed in *Tennessee Valley Authority v. Hill* (437 U.S. 153, n20 (1978)), predicated upon a 1896 Supreme Court decision, *Geer v. Connecticut* (161 U.S. 519 (1896)). This had confirmed that a proprietary interest in wildlife was held by the states, and hence sanctified states' interests and relegated the federal government to a secondary role. The 1912 *Abbey Dodge* decision (223 U.S. 166 (1912)) further restricted federal involvement, effectively outlawing it within state boundaries. In 1979, amidst the continual expansion in federal jurisdiction over a range of legal arenas, the *Geer* decision was finally overturned (*Hughes v. Oklahoma*, 441 U.S. 322 (1979)). See Rosenberg, R., "Federal Protection of Unique Environmental Interests: Endangered and Threatened Species" (1980) 58 *North Carolina Law Review* 491).

243 Little (1992) *op. cit.* n82.

to protect species threatened with extinction was hobbled by limitations such as the restriction of taking prohibitions to endangered species on federal lands. These statutes were however each an incremental step towards more comprehensive endangered species laws.

Due to these short-comings a replacement statute, the *Endangered Species Act*, was formulated. It was intended to combine the domestic and international elements of enhanced endangered species protection under a single statute.[244] The ESA was one of the last of the series of 1970s environmental legislation, having been set in motion just prior to the 1973 Arab Oil Crisis. It was enacted within a year of the MMPA, and prior to the escalation of the tuna-dolphin controversy.

In enacting the ESA, Congress's ultimate purpose was the conservation of the nation's natural heritage for the enjoyment and benefit of current and future generations[245]. In a similar vein, on signing the Act, President Nixon declared that "nothing is more priceless and more worthy of preservation than the rich array of animal life with which our country has been blessed".[246]

The ESA

> reflects the findings that human activities are responsible for causing the extinction of many species of animals and plants, and are bringing many more to the brink of extinction. The Act was enacted to prevent or retard the number of extinctions from man-made causes.[247]

When the 1973 Act was passed there was already a list of 392 species that had been compiled since its predecessor's 1966 enactment. Transitional provisions allowed that any species listed under the earlier Act would be designated as endangered under the ESA, pending republication of the list to conform with the two categories of endangered and threatened.[248] Endangered, that is in danger of extinction through all or a significant portion of its range; and threatened which refers to those species that without protection are likely to become endangered in the foreseeable future. The listing of species as endangered under the ESA effectively outlawed their capture.[249] Thus the take of those species of sea turtle that had been listed in 1970 was prohibited.

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244 *Endangered Species Act* of 1973, Pub. L. No. 93-205, 87 Stat. 884 (16 U.S.C. 1531). Such shortcomings included narrow eligibility for listings, the ESA broadened these so as to include plants and invertebrates.

245 ESA, §1531(a)-(c), [s2(a)-(c)]. Aitchison, D., "Lucas and Endangered Species Protection" (1993) 27 *University of California* 185.

246 Presidential Statement on Signing S.1983 into Law, 10 Weekly Comp. Pres. Doc. 2 (28 December 1973).

247 Conner (1987) *op. cit.* n230 at 7.

248 ESA, §1535(c)(3), [s6(c)(3)].

249 This occurred through their inclusion on the lists of threatened and endangered species.

A 90 day period was allowed for the lodging of responses to an initial nomination. If the nomination was successful then an internal agency review was to be undertaken, the results of which were published in the National Register within one year of the study's commencement. Final determination of whether a species was to be listed fell to either the Secretary of Commerce or Interior, and the decision was to be based upon the best available scientific information.[250]

The MMPA was itself amended at the time of the ESA's enactment so as to provide that a population listed as threatened under the ESA, would automatically be considered "depleted" under the MMPA.[251] This had two effects. Firstly, as the threshold for classifying a population as depleted is usually considerably more than the threshold for classifying a population as threatened, it provided a mechanism whereby the depleted population provision of the MMPA could be invoked with a considerably lower burden than initially intended. Secondly, this linkage provided an indirect public means of nominating a species as depleted under the MMPA where none statutorily existed.

The main difference between the two Acts however was that the MMPA offered immediate protection to all marine mammals, whereas those species found to require protection under the ESA had first to pass through a complex nomination and listing process. It was during this process that lengthy delays in turtle protection arose. For a species to warrant protection under the ESA a four stage procedure had to be completed. A proposed regulation had to be developed, then published in the Federal Register and following which it was subject to a period of public comment. A final regulation was required to be promulgated within one year of the initial proposed regulation, or else the regulation be withdrawn and evidence warranting its withdrawal published. If substantial disagreement on the accuracy or sufficiency of scientific data existed then an extension of up to six months was permitted. Thus, under the scheme of the ESA it should have taken a maximum of two years and nine months from nomination to the publishing of a final regulation for any species — in the cases of the green and the loggerhead sea turtles however, it took almost double this time. This delay can not be entirely attributed to the complexity of the process, but rather must also be explained by the interagency conflict that arose over, in particular, issues of jurisdiction.

By the mid 1970s a number of environmental groups had joined together in a strong call to the government to address the dangers facing marine turtles.[252] This mobilisation

250 The list of endangered and threatened species is published at 50 CFR §17.11.

251 MMPA, §1362(1)(c), [s3(1)(c)], amended by Pub. L. 93-205, 87 Stat. 884 (1973).

252 Particularly activist was Milton Kaufman of the environmental group Fund for Animals.

and organisation had a significantly different impact to the previous segmented bemoaning of turtles' declining status. Heightened societal awareness assisted in the progression of the sea turtle issue onto the agenda. Resulting from this pressure, on 26 December 1973 two additional species of sea turtle — the green and the loggerhead — were proposed for listing by the Department of the Interior.[253] Initially listing was to occur under the *Endangered Species Protection Act*.[254] The ESA however was subsequently enacted and the proposed listing withdrawn, to be progressed through the new Act's provisions. Environmentalists cited the 1973 passage of the ESA as the perfect instrument with which to give effect to sea turtle protection. Accordingly, the Department of the Interior was petitioned in April 1974 to list the Green turtle as endangered and the loggerhead and Olive Ridley as threatened.[255] What ensued was "a tale of interagency jurisdictional conflict, delay, negotiation and scientific debate."[256]

It was not until four and a half years later, in 1978, that these species of sea turtles would be eventually listed for protection under the ESA. As has been suggested earlier, the delay was by and large due to a interagency conflict. The ESA had introduced a role for NMFS in endangered species protection.[257] This led to feuding between NMFS and the Fish and Wildlife Service. Discrepancies in preferred responses to the listing of species have been attributed to an outgrowth of the conflict between the agencies' organisational goals. Described simply,

> NMFS favoured exemptions from the taking prohibition for commercial mariculture and for incidental catch by commercial fishermen; FWS did not.[258]

In this regard, it has been suggested that the jurisdictional disputes were merely a "smoke screen" and that "the real dispute was over perceived economic impacts versus biological interests".[259]

In August 1974, less than a year after the enactment of the ESA, NMFS and FWS signed a Memorandum of Understanding (MOU) outlining jurisdictional

253 38 Fed. Reg. 35485 (1973).

254 *Ibid.*

255 Letter from F. Wayne King, New York Zoological Society, to Rogers Morton, Secretary of Interior, 23 April 1974.

256 Yaffee, S., *Prohibitive Policy: Implementing the Federal Endangered Species Act* (MIT Press, Cambridge, 1982) at 164.

257 Perhaps a result of the perceived conflict of interest between the NMFS's management of fisheries and their duty to conserve endangered species, Congress afforded the Secretary of Commerce only limited powers. The Secretary of Commerce was able to act unilaterally to increase the protective status of a species under the NMFS's jurisdiction, however to reduce a species' status from endangered to threatened or to delist a species the concurrence of the Secretary of Interior was required.

258 Yaffee (1982) *op. cit.* n256 at 115.

259 Per. comm. Dr Ken Dodd, Fish and Wildlife Service, e-mail communication 20 May 1999.

responsibilities under the new Act.[260] The allocation of turtles was not stipulated, but marine/coastal resources were to be jointly managed by both NMFS and FWS. The lack of data was apparent, and two agencies jointly prepared a comprehensive biological study on the status of the nominated species of sea turtles.[261] As a result of this study, in May 1975 a joint NMFS/FWS proposal for the listing of all three species of sea turtle was published.[262]

NMFS was subsequently petitioned by the Sea Life Park in Hawaii to hold a public hearing on the proposed listings. Without consulting the FWS, NMFS decided to grant the request. Moreover and notwithstanding the joint biological study that had been undertaken, NMFS also decided to prepare a draft EIS. This was the first time NMFS had taken such a course of action and it was widely speculated that these were merely stalling tactics.

Supporting such suggestions is the admission by the director of the office of NMFS's endangered species program, to difficulties caused by the agency's dual role. As well as the protection of sea turtles, NMFS was entrusted with the economic development of the shrimp trawl industry under the FCMA.[263] He commented on NMFS's primary involvement with commercial fisheries, and conceded that the ESA was very difficult for it to implement.[264] In this regard the NMFS openly admitted a preference for the listing of species as threatened rather than endangered, based on the belief that they ought to be managed, not protected.

The unilateral action of NMFS constituted a violation of the MOU, which included an agreement that all marine based actions would be collaborative. In response the director of FWS, Lynn Greenwalt, wrote to NMFS expressing its strong disagreement to any delay in the listing of sea turtle species. Moreover FWS considered the report to be a needless repetition as a comprehensive assessment had already been prepared.[265]

NMFS went ahead and scheduled the hearing for December 3, some three months later. In the November NMFS postponed the hearing until February 25, 1976. Meanwhile

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260 "Regarding Jurisdictional Responsibilities and Listing Procedures under the Endangered Species Act of 1973" signed by FWS Director Lynn Greenwalt and NMFS Director Robert Schoning, 24 August 1974.

261 Per. comm. Chuck Oravetz, National Marine Fisheries Service, e-mail communication 10 June 1999.

262 40 Fed Reg. 21974 (1975).

263 Tucker, A., Robins, J. and McPhee, D., "Adopting Turtle Exclusion Devices in Australia and the United States: What are the Differences in Technology Transfer, Promotion, and Acceptance?" (1997) 25 *Coastal Management* 405.

264 Yaffee (1982) *op. cit.* n256.

265 Letter from by FWS Director Lynn Greenwalt to NMFS Director Robert Schoning, 18 August 1975.

FWS sought legal advice on what action was available to it with respect to NMFS's breach of the MOU. As no dispute resolution provision had been included the agency was advised that any grievance would have to be resolved by a higher level authority.

In February FWS received a copy of the draft EIS. The document stated that listing would have very little economic impact and that the species proposed were indeed threatened. This document was also presented to NMFS's public hearing, and participants were informed that a final action would occur by the first of June.[266]

In the event, the draft regulations were not ready until the fall of 1976. These allocated most of the responsibility for sea turtle recovery to NMFS. Approved by FWS they were never to progress beyond draft stage however, as they were vetoed by the Department of Interior. A lengthy negotiation period ensued and finally in July 1977 an MOU between the two departments regarding sea turtle protection was signed.[267] This created a new regime whereby responsibility for sea turtle protection was distributed at the low water mark: NMFS having marine responsibilities and FWS terrestrial control.

As mentioned briefly, shrimp trawling was not the only issue to create contention with regard to the listing of sea turtles under the ESA. NMFS was concerned to secure an exemption for Mariculture Ltd in the Cayman Islands so as to allow the importation and sale of 'farmed' turtles. FWS did not want the exemption. Though ultimately unsuccessful, Mariculture Ltd's efforts were moreover bolstered by considerable Congressional support.[268]

Subsequent to this final MOU, the listing of sea turtles ought to have been a simple procedure. The question of the extent to which the turtles were under threat of extinction had yet to be resolved however. Similarly to the MMPA, the ESA had made it a crime to "take" any plant or animal listed as endangered.[269] Threatened species were not subject to no-take provisions and thus a strict liability did not here apply. The ESA did authorise the Secretary to extend to threatened species the same protection offered to those listed as endangered though. As a consequence of NMFS

266 Statement made he Paul Kiefer, attorney for NOAA Washington Office, as transcribed in "Sea Turtle Hearing Minutes" unpublished, 11 February 1976 p82, cited in Yaffee (1982) at 116.

267 "Memorandum of Understanding Defining the Roles of the U.S. Fisheries and Wildlife Service and the National Marine Fisheries Service in Joint Administration of the Endangered Species Act of 1973 as to Marine Turtles" signed by FWS Director Lynn Greenwalt and NMFS Director Robert Schoning, 18 July 1977.

268 Per. comm. Dr Ken Dodd *op. cit.* n259. Interestingly Missouri Senator Danforth who was strongly in favour of Mariculture's exemption was heir to the 'Purina fortune'. Purina supplied the feed for Mariculture's operations.

269 ESA, §1532(12), [s3(12)].

concerns over the impact on mariculture and commercial trawling interests of assigning sea turtles the status of endangered, listing was once again delayed. In February 1978 the EDF petitioned FWS and NMFS to list all three species as endangered.[270] In the end the two populations of green turtles were listed as endangered and the Pacific Ridley and Loggerhead both as threatened.[271]

By listing sea turtle species as threatened rather than endangered, the

> NMFS and FWS avoided the problem of incidental catch by commercial fishers. If the species had been listed as endangered (as petitioned), incidental catch would have been prohibited and serious problems would have arisen from enforcement and commercial fishing. The threatened classification for commercial fishermen out of the blanket prohibition. Further, while making a concession to the fishing industry, the classification allowed the agencies to prescribe procedures to follow if a turtle was accidentally caught by the fishermen.[272]

A second protective provision operated regardless of the category assigned to the species. Section 7 of the Act placed a duty to conserve upon all federal agencies. Although not applying to non-federal actors, this provision ensured that any actions financed, authorised, or undertaken by the federal government would not jeopardise the continued existence of an endangered or threatened species. Agencies were required to consult with FWS/NMFS with who the primary responsibility for protecting threatened and endangered species lay. A "biological opinion" from the responsible agency that such a jeopardy was likely to exist would lead to the prohibition of the proposed activity. The courts have subsequently found that this "jeopardy" provision extended to an affirmative duty to recover endangered and threatened species by all possible methods.[273]

## The weight of evidence

By and large due to the controversy over turtle exclusion devices, more than 20 years elapsed between the listing of turtle species and the full implementation of TED requirements. Initially it was unclear what degree of influence the various human impacts had upon sea turtle populations. Potential factors contributing to their declining numbers were:

- the loss of nesting sites to coastal development,
- activities associated with offshore energy projects,
- changes in climatic conditions,

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270 Letter form Michael Bean EDF to Junita Kreps, Secretary of Commerce and Cecil Andrus Secretary for the Interior, 28 February 1978.

271 43 Fed. Reg. 32808 (1978)

272 Yaffee (1982) *op. cit.* n256 at 89-90.

273 *Defenders of Wildlife v. Andrus*, 428 F. Supp. 167 (D.D.C. 1976) at 170.

- pollution and ingestion of marine debris,
- predation of eggs and hatchlings on nesting beaches,
- capture for human consumption, and
- incidental capture in fishing gear.

In 1973 the shrimp fishing industry was identified in a study by Prichard and Marquez as the principal threat to the continued existence of Kemp's Ridley sea turtle.[274] Evidence of the negative impact of trawling upon sea turtles included:

- the rise in the proportion of dead and comatosed turtles hauled aboard in shrimp trawls when the tow time increased. This ranged from very few at 40 minutes, to where about 70% of sea turtles were unable to be revived at tow times of about 90 minutes;
- witnessing of an increase in the number of stranded carcasses on the beaches when shrimp fisheries open in south Carolina and Texas, and a similar decrease at the close of seasons.[275] Data suggests that 70-80% of turtles stranded during these periods were caught and killed in shrimp trawls; and
- a decline in loggerhead turtle populations in areas of heavy trawling but maintenance of their numbers in other regions where trawling is rare or absent.[276]

Shrimpers complained that evidence such as the relatively large numbers of sea turtles washed ashore from North Carolina to Texas during shrimping season was purely circumstantial, and this could be a result of a range of other factors such as water temperatures or increases in other seasonal Gulf activities. Research conducted in the 1970s and early 1980s generated a impressive record of studies. These demonstrated a linkage between shrimp fishing and the depletion sea turtle species, and went so far as to attempt to quantify sea turtle bycatch.[277] Between 1979 and 1981, NMFS conducted its own studies into sea turtle bycatch and mortality. Trained fishery observers were placed onboard vessels in the Gulf of Mexico and Southern Atlantic region. A total of

274 Pritchard P. and Marquez, M., *Kemp's Ridley Turtle or Atlantic Ridley, Lepidochelys kempi*, IUCN Monograph No. 2 Marine Turtle Series (IUCN, Washington DC, 1973).

275 Sea turtle strandings increased stepwise by factors of 3.9 to 5. during closed and open season.

276 NAS (1990) *op. cit.* n231.

277 Anonymous, *Incidental Capture of Sea Turtles by Shrimp Fishermen in Florida* (Preliminary Report of the Florida West Coast Survey, University of Florida Marine Advisory Program, 1976); Anonymous, *Alabama Shrimp Fishermen Interviews for 1977-1978* (Marine Resources Office, Alabama Cooperative Extension Service, 1977); Hillestad, H., Richardson, J. and Williamson, G., "Incidental Capture of Sea Turtles by Shrimp Trawlmen in Georgia" (1978) 32 *Proceedings of the Annual Conference of the Southeast Association of Fish and Wildlife Agencies* 167; Rothmayr, C. and Henwood, T., *Incidental Catch and Mortality Report:* (Final Report to Southeast Fisheries Center, NMFS, Miami, 1982); and Urlich, G., *Incidental Capture of Loggerhead Turtles by South Carolina Commercial Fisheries:* (Report of the National Marine Fisheries Service, 1978).

26734 observer hours led to results of 16 to 1 chance of turtles being captured in the Southern Atlantic as compared to the Gulf of Mexico.[278]

Precise quantification of trawling induced turtle mortality is difficult. Using observer data NMFS estimated that 47,973 sea turtles were captured annually in offshore shrimp trawling operations, and more than 11,179 died as a consequence of their capture.[279] Shrimpers dispute these figures. They claim that little over 12,000 turtles are captured each year and that of these only 572 die.[280] Fishers continue to contend that

> American shrimpers, especially in the Gulf of Mexico, are only insignificant players in the demise of sea turtle populations. Sea turtles are only very rarely or incidentally caught by shrimp trawling efforts, and those few that do get caught are normally returned to the water alive.[281]

## Recovery Planning and TEDs: implementation requirements and industry defiance

In 1978 - the same year as the remaining unlisted sea turtle species were officially recognised as needing protection - the ESA was amended. It provided that federal agencies may obtain an exemption for actions that jeopardised listed species, from an executive-level Endangered Species Committee.[282] The amendments were by and large a reflection of Congress's search for a compromise position between developers and conservationists. Exemption was based on a determination of whether the benefits of an action "clearly outweighed the benefits of alternative courses of action, consistent with conserving the species", and whether "the action is of national or regional significance".[283] These section 7 amendments were uniformly condemned by environmental NGOs. President Carter too was hesitant about the benefits of these provisions, and warned the Committee members to be "exceedingly cautious in considering exemptions".[284]

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278 During 9943 observer hours in the south Atlantic 482 turtles were caught, compared with 16771 observer hours in the Gulf of Mexico which resulted in the capture of only 52 turtles.

279 Henwood, T. and Stuntz, W., "Analysis of Sea Turtle Captures and Mortalities During Commercial Shrimp Trawling" (1987) 85 *Fishery Bulletin* 813.

280 *National Fisherman* (June 1987) at 15, cited in Durrenberger (1988) *op. cit.* n238.

281 Mialjevich, T., "Sea Turtles and TEDs: A Misdirected and Counterproductive Effort to Save Turtles" (1987) 7 *Water Log* 28 at 29.

282 These changes were largely motivated by the Supreme Court's interpretation of the ESA in *Hill v. Tennessee Valley Authority*, 549 F.2d 1064, 1069 (6th Cir. 1977), aff'd, 437 U.S. 153 (1978). Herein the construction of a $100 million reservoir, today the Tellico Dam, was halted 80% complete when a previously unknown fish species, the snail darter, was discovered in the Little Tennessee River. The snail darter was included in the list of endangered species soon after passage of the ESA in 1973, and the Tennessee Valley Authority was consequently subject to the provision requiring federal agencies to avoid actions that jeopardise the continued existence of the species. In the 1978 a Supreme Court decision affirmed the 1977 injunction against Tellico.

283 ESA, §1536(e)/(h), [s7(e)/(h)].

284 Presidential Statement on Signing S.2899 into Law, 14 Weekly Comp. Pres. Doc. 2002 (10 November 1978).

At the same time, and applauded by NGOs, was the introduction of recovery plans and the requirement that the Secretary designate critical habitats.[285] The concept of recovery planning had emerged and already become established as an agency process. At the 1978 Congressional hearings, prior to the amendments, Lynn Greenwalt of FWS gave evidence that 59 recovery teams had been established with responsibility for developing recovery plans for 73 priority species.[286] At the urging of environmental groups, and with the support of FWS, this practice was changed from a discretionary arrangement to a mandated statutory process in what was essentially a Congressional ratification of an existing activity.[287] The amendment was significant not only because it provided the process greater legitimacy, but also because it facilitated the assignment of funding therefor. Moreover it required NMFS to also engage in this process.

The original provision for recovery planning, as enacted in 1978, directed the Secretary to develop and implement plans for the conservation and survival of endangered and threatened species unless it was found that such action would not promote the conservation thereof.[288] Recovery plans were intended essentially as a fallback measure; to be used when the existing section 7 and 9 provisions were insufficient to recover a species.[289] In this regard they were intended to be used as tools by which conservation measures could be identified and initiated so as to improve a species' status.[290] Considering they were designed to recover the more imperiled species, the plans suffered a serious shortcoming: they were implementation schedules rather than regulatory documents and, as such, were unenforceable.[291]

Regardless of this new action-forcing mechanism, when it came to confronting the problem of sea turtle bycatch, government agencies stalled.[292] They have been condemned by environmentalists for fostering short term thinking and actions in their prioritising of the maintenance of what was an overcapitalised and subsidised industry under threat from cheap imported shrimp, over and above the goal of turtle

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285 ESA, §1534, [s5].

286 *Endangered Species Act Authorisation: Hearings before the Subcommittee on Fisheries and Wildlife Conservation and the Environment, Committee on Merchant Marine and Fisheries*, 95th Cong., 2d Sess. (1978) (hereafter "ESA hearings (1978)"), statement of Lynn A. Greenwalt, Fish and Wildlife Service, U.S. Department of the Interior.

287 Cheever, F., "The Road to Recovery: A New Way of Thinking About the Endangered Species Act" (1996) 23 *Ecology Law Quarterly* 1 at 35.

288 ESA, §1533(f)(1), [s4(f)(1)].

289 ESA hearings (1978) *op. cit.* n286, statement of Lynn A. Greenwalt, Fish and Wildlife Service, U.S. Department of the Interior.

290 ESA, §1533(f)(1)(B)(i), [s4(f)(1)(B)(i)].

291 Cheever (1996) *op. cit.* n287.

292 Weber et al. (1995) *op. cit.* n224, at 2.

bycatch reduction. Shrimpers on the other hand accused the government of "simple bureaucratic intransigence, inability to admit mistakes, and faulty TED testing techniques."[293]

> It is a common observation that every party affected by a government regulation tends to think that the responsible agency unduly favours parties with opposing interests. On the TED issue, shrimpers predictably thought that the NMFS was overly sympathetic to the cause of the environmentalists. On the other hand, environmentalists thought that political pressure had inclined the agency to be too lenient with the shrimp industry. In circumstances like this where livelihoods compete with regulations protecting endangered species, a government regulation will be entirely satisfactory to no one, and the situation can become politically volatile.[294]

The one issue that industry and environmental representatives united on was with respect to imported shrimp products. Both groups complained that the imposition of these regulations on the domestic fleet without a mirror arrangement in other shrimp harvesting nations was unacceptable. Environmentalists highlighted the inadequacy of protecting turtles in one jurisdiction when they were subject to incidental capture in another. Fishers were also concerned about a further reduction in their price competitiveness on the market given the extra production costs they were incurring.

Irrespective of the protests of their main client group, the responsibility for remedying the decline in turtle populations fell largely to NMFS. As per the 1978 amendments it was required to construct a recovery plan for each listed species unless such would not further that species' protection. The preparation of a sea turtle recovery plan was assigned to a Marine Turtle Recovery Team.

Various options for the reduction of turtle bycatch were available. These included the limiting of fishing effort during particular seasons or in certain areas, the closing of some fisheries, the modification of gear, or reduction of tow times, the establishment of a quota system such as exists in the ETP for dolphin bycatch, or to do nothing except require that fishers release and if possible revive captured turtles. The closing of the fishery clearly would have been a politically unpopular and hence unacceptable decision. The logistics and cost of establishing a quota arrangement resemblant to that of dolphin purse-seining bycatch prohibited that option. Thus the agency initially chose the latter option. The agency issued a Final EIS on sea turtle bycatch in 1978 and at this same time it distributed guidelines for the resuscitation and release of captured turtles.[295]

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293 Mialjevich (1987) *op. cit.* n281 at 30.

294 Conner (1987) *op. cit.* n230 at 12.

295 43 Fed. Reg. 32811 (1978).

The State of Louisiana and the Louisiana Shrimpers Association had argued against the closing of areas to avoid sea turtle bycatch, and urged that ESA funds instead be used for alternate gear research. In 1978 NMFS in conjunction with the Sea Grant Extension Service (SGES) and the shrimping industry, launched a gear research program. The initial 3 year excluder trawl program was an attempt by NMFS to meet the requirements of the ESA with minimal negative impact on fishers.[296] The intention was to design an apparatus for turtle exclusion that could be used in conjunction with existing trawl gear. In the event there was scant industry involvement in the process of designing and refining the TED. Funding for research came from the government and NMFS drove the process.

Thus the incidental capture of sea turtles in trawl fisheries was initially attended by the search for a barrier device to prevent turtles from entering fishing gear.[297] These barriers excluded approximately 75% of turtles, however catch loss was also high, averaging between 15 and 30 percent.[298] As a consequence a second strategy was engaged: the modification of gear to allow turtles to escape through a release device. This proved to be a technical success.[299] In 1980 experiments with the device were initiated based upon an adaptation of the 'cannonball shooter' a device which had been long used to prevent the collection of cannonball jellyfish and trash in trawl nets. These achieved a 97% turtle exclusion rate.[300] Unlike some other conflicts between short term economic need and long term ecological health, a technological solution did present itself soon after the emergence of the problem.

At a meeting in Charleston, South Carolina in 1980, NMFS unveiled a primitive version of the TED. The original TED was heavy and unwieldy, and in response to comments and complaints from a handful of shrimpers who volunteered to test the devices, changes were made. The device however held considerable promise. NGOs thus contained their push for immediate conservation measures, based upon assurances by NMFS that regulations to require the use of TEDs would soon be forthcoming. No regulations were promulgated though, and meanwhile NMFS officials theorised about the potential for voluntary adoption of the devices, if these were able to be made attractive enough to industry.

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296 Tucker et al. (1997) *op. cit.* n263.

297 Several hundred thousands of dollars were spent in 1978 by the NMFS. The catch loss was however 15-30%. Margavio, A., Laska, S., Mason, J. and Forsyth, C., "Captives of Conflict: The TEDs Case" (1993) 6 *Society and Natural Resources* 273-290.

298 *Ibid.*

299 *Ibid* at 180.

300 43 Fed. Reg. 24,244 (1978).

## Concluding Comments

In the late 1960s and early 1970s, Congress, spurred on by the rising popularity of the environmental movement, enacted a series of endangered species statutes culminating with the ESA in 1973. In comparison to the MMPA's broad-ranging protection of all marine mammals, the ESA suffered criticism for its protection of species only once threatened with endangerment, and its complex listing process, known as a species approach.

NGOs who first ignited the process were sure to have had no idea how long it would take to get three species of sea turtles listed. Continual postponements of the listing of sea turtles was due predominantly — though not exclusively — to NMFS action. Requirements to minimise turtle bycatch were thus also delayed. In this way the action of the bureaucracy entrusted with sea turtle protection in the water, was ultimately responsible for the retardation of this very process. Such a delay was naturally to the delight of much of its main stakeholder group, commercial fishers. This is not to say that the dispute between NMFS and FWS was manufactured in order to stall the process, the jurisdictional conflict itself was very real.

Having played a significant role in the delay that occurred in offering turtles protection, once assured a leadership role NMFS demonstrated considerable initiative in formulating a workable solution to the conflicting goals of minimising sea turtle bycatch and maximising shrimp catches. This path was not to prove smooth though. Problems arose firstly out of the lack of certainty with regard to which human activities were to blame for the sea turtles' population demise. By the mid 1970s scientific opinion seemed to coalesce that the main cause of declining turtle populations was their incidental capture in shrimp nets. Fishers however refused to accept this, and instead maintained a position that they did not catch many turtles in their operations.

In an attempt to find a balance between its duty to protect turtles and its commitment to the shrimping industry, NMFS took a research approach to its endangered species program. Having invested considerable time, money and energy into perfecting a turtle exclusion device NMFS presumed that the implementation would be simple, and instigated a voluntary scheme. The agency fully anticipated that TEDs would be seen to offer a range of benefits to shrimpers and thus be adopted in Gulf and Atlantic post haste — they believed that the controversial phase of turtle bycatch reduction had passed and that, having generated a workable compromise, the responsibility for the program's implementation would be none too onerous.

## 3.7 Concluding Comments for Chapter Three

Much of the material discussed in this chapter lays the foundation for future action with respect to the development of U.S. bycatch reduction policies. Indeed in the 1970s the broad issue of bycatch was not itself recognised as a conservation imperative: perhaps as is best evidenced in its absence from the National Standards for fisheries conservation promulgated under the FCMA.

Nonetheless, several potential tools for the management of bycatch emerged in the early 1970s — in particular the MMPA and ESA, and the use of unilateral trade sanctions. These functioned on a fisheries and species specific basis; through them the incidental capture of dolphin and sea turtles in commercial fisheries operations was recognised as a problem and tackled accordingly. The cases are outlined below in terms of their influences with regard to the four factors outlined in Chapter Two, that is: the international influences, the impact of NGOs, the role of science, and domestic factors.

### International Influences

The internationalisation of high seas fisheries management had not emerged as a widely accepted paradigm in the 1970s, and globalisation had yet to become a household phrase. The 1972 Stockholm Convention had powerfully endorsed the sovereign rights of nations, and distant water fishing fleets were as a rule subject only to the law of their flag State. Recognition had however occurred that the exploitation of resources on the high seas required some form of multilateral regime to ensure the sustainable use and equitable distribution thereof.

The U.S.'s attempts to remedy the bycatch of marine turtles and dolphins although not driven by international pressure, were affected by the extent and location of fishing activities outside its jurisdiction — be that high seas or national waters. That is, the internationality of the issue influenced the domestic implementation of the goal of bycatch reduction within the U.S..

Both tuna purse-seiners and shrimp trawlers quickly perceived there to be an injustice in their being required to compete against foreign fishers who were not subject to the same rigorous controls as they were. In this way the domestic creation of a bycatch minimisation policy was hampered by the legitimate complaints of the industry. The purse-seining tuna fishery was largely a high seas activity though and thus the need for a remedy had been anticipated. At the inception of the MMPA Congress had perceived dolphin bycatch as an international problem, and accordingly had included sanction provisions in the Act. At that time neither the FCMA nor the Pelly

amendment were amenable to providing similar controls over shrimp imports, and the ESA had no embargo powers.

Thus in relation to the need for equitable arrangements for the sale of the U.S. fleet's product, the tuna-dolphin issue was able to find a solution due to the internationality of the issue. This ultimately allowed U.S. tuna fishers to accept the dolphin bycatch provisions without the same perceived unfair disadvantage as shrimpers held due to cheap imported products.

A related issue is the extension of U.S. provisions to those foreign fishers who also caused high levels of marine wildlife bycatch. Although the lack of parallel bycatch minimisation requirements in shrimp trawling nations would later emerge as a prominent issue, this was given scant regard to begin with.

The international impact of turtle bycatch in shrimping operations was perceived to be more subtle than that of the dolphin issue due to the lack of co-location with U.S. and foreign fishers. The harvesting of shrimp was conducted almost exclusively in State waters. No international management or quota allocation arrangement preexisted. Thus the translation of sea turtle bycatch from a domestic issue to an international concern — notwithstanding turtle's highly migratory nature — was impeded by the issue's newness.

In comparison, and once again due to its high seas nature, the need for international support to resolve the bycatch problem in the international purse-seining tuna fishery was immediately recognised. The issue area of multilateral tuna management was not restricted by the originality of the issue. Both the IWC and the FAO had raised the issue of small cetacean bycatch. Moreover there was no need for the creation of a new regime, but instead a multilateral forum for tuna related concerns already existed. What was needed however was the translation of this from a purely resource oriented allocation regime, to one that prescribed conservation measures also. Due to the link between dolphin bycatch and the practice of tuna fishing, these concerns were able to be tied closely to international fishing efforts and the IATTC regime. The issue linkage and the U.S. position as a hegemon was however insufficient to see the progression of this issue to conclusion. The failure was by and large due to the presence of a virulent side issue – that of national marine jurisdiction and the allocation of natural resources.

Dolphin bycatch was however better able to be minimised across the board, domestically and internationally, whereas sea turtle bycatch was tackled only on a domestic level and but a tentative conclusion was reached. It is worthwhile to note that, rather than providing an impetus to policy formation, the internationality of the

tuna-dolphin issue removed what would have otherwise been a barrier to the successful development of such policy.

## The Impact of NGOs

NGOs were significant actors in the early phases of issue emergence in both dolphin and sea turtle protection. The two areas were however tackled quite differently. The main success of NGOs came in the creation of the legislation for dolphin bycatch, and instead for the listing of the species in relation to sea turtles. In both cases NGOs also influenced bycatch policy through the implementation of the MMPA and ESA's statutory requirements. Law suits proved to be effective as threats, and favorable judgements assisted in increasing the level of marine wildlife protection.

The comparative level of public attention afforded to dolphins was much greater that that for sea turtles. Indeed Congressional awareness of the public's outrage over dolphin bycatch was a significant factor in both the initiation and the form of the MMPA. A sympathetic media aided in the conveyance of this to Washington.

Congress was already aware of and sympathetic to the need for a revised and strengthened endangered species legislation — although not specifically mindful of its application to turtles. Once enacted this provided the perfect tool with which to effect sea turtle protection.

The lack of broader community involvement in turtle bycatch reduction can be attributed to NGOs' recognition of an alternate, and more appropriate, means of progressing this cause. Thus the lack of public participation can be linked to a lack media attention being sought by NGOs. Indeed, having seen the success of the dolphin campaign there is little doubt that a similar level of involvement could have been achieved for sea turtles. Instead sea turtle protection was derived from statutory provisions based on scientific evidence.

## The Role of Science

Although not a particular influence in the creation of international policy, science has played a significant role in domestic tuna-dolphin and turtle-shrimp controversies. Dolphins by virtue of being marine mammals and thus under the protective regime of the MMPA were offered instant protection regardless of their state of endangerment. Science was not needed to justify their protection. Thus the main stakeholder group the ATA did not argue the magnitude of dolphin bycatch. Fishers did however use the promise of science and technological development though to convince Congress to

grant them a two year stay on the prohibition of taking dolphins incidental to their operations.

The court throughout the tuna-dolphin disputes has been critical of the lack of attention paid to the gathering of scientific data by the responsible department. Under the MMPA, NMFS was required to generate a range of data with regard to a species for which a take permit was granted. This was a legal requirement of the broad regulatory scheme with which the agency was entrusted. The purpose of such information was clear: to prevent the decline of the species to the status of depleted. Misjudgment and lack of scientific data in the early phases caused in some cases delays to the protection of dolphin species, and in other cases over reactions and tightly set quotas. Thus fishers were able propose their own data and in this way to use science as a means to gain small quota concessions from the regulatory agency. The introduction of the observer system and its dual role in data collection helped to provide more accurate information and hence improved decisions.

Science has proven to be much more controversial in the turtle-shrimp dispute, largely because the protective regime of the ESA is only invoked if the species in question is found to be threatened or endangered. The Act placed a burden of proof initially on the nominator, who had to provide evidence of why a species required listing. Information provided was then to be evaluated by the agency and the need for protection reassessed. In the case of turtles the requirement for the early use of science acted, rather than to provide comprehensive data, instead to delay the protective process. It took more than four years to finally have the precarious status of the sea turtle recognised under the ESA. Although comprehensive information was not available, it was chiefly an unrelated reticence by one part of the bureaucracy that delayed the process of sea turtle listing.

Industry stakeholders also used science to delay the protective process. Significant and ongoing controversy arose over the validity of the science generated, in terms of the level of turtle mortality and the causes of turtle fatality. Indeed few articles have been written that do not devote entire sections to the role of science in sea turtle protection. Many of these overstate the disadvantage which fishers were at due to the absence of scientists in their employ. To be sure some data was based upon flawed methodologies, but claims of bias aimed at both agency and NGO scientists were disproportionate to the actual occurrence of misinformation. Moreover, industry's lack of access to expert scientists was used successfully as a political weapon with which to gain policy concessions.

## Domestic Factors

In the domestic arena the issues of turtle and dolphin bycatch were tackled with vast differences and stunning similarities. The need for dolphin protection was addressed directly by Congress and legislated according to its specific policy desires. A different statutory approach was applied to sea turtle protection. The level of protection required was left to the bureaucracy to control and regulate, further Congress failed to even specify which agency was to be in control of this task.

When controversy arose, though, Congress failed to significantly intervene or bring closure to either issue. In this way Congress's intention in these enactments was largely left up to bureaucratic design and judicial determination.

With regard to tuna-dolphin bycatch, notwithstanding a clear Congressional mandate, when the anticipated scientific solution failed to eventuate the executive branch was hesitant to impose the statutory zero mortality goal upon its key stakeholder group. NMFS has had considerable impact upon the final shape of what were relatively well articulated Congressional edicts.

In response to agency reinterpretation of legal protective requirements, NGOs have repeatedly called upon judicial intervention. The courts have largely offered strict interpretation of the statutes, often — but not exclusively — to the favour of environmentalists.

Interagency conflict also impacted significantly upon the protection of sea turtles. A struggle for jurisdiction over these species on the part of both NMFS and FWS led to the frequent stalling of species' listing under the ESA. Although eventually resolved, this scenario demonstrates the importance of assigning specific jurisdiction to certain agencies for the administration of particular statutes. This is especially so when one agency could be seen to have a conflict of interest due to the promotion of a key stakeholder group opposed to the policy in question also falling within its bailiwick.

In the event a conflict of interest was faced by NMFS in both the tuna-dolphin and the turtle-shrimp controversies. It was required to implement a policy that reduced the catch levels of an industry it had been mandated to maximise the harvest of. In both cases it chose to progress marine wildlife protection through technological investment and developments, thus reducing the impact upon fishers. In this way, the agency was instrumental in devising a compromise position between NGOs and fishers.

In both situations regulations were initially met with Congressional lobbying, protests and strikes, and administrative coercion, all applied with varying degrees of success. Eventually a policy of cooperation prevailed in the ETP that was not achieved in the

Gulf and along the Atlantic coast. Gear modifications were quickly adopted by tuna fishers although lobbying for quota increases was ongoing. Conversely, when a technological solution became available to shrimpers, industry intransigence mixed with a genuine belief that the device would make their operations economically unviable prevented its adoption. The difference in approaches well illustrates the significant role that industry plays in bycatch policy development and implementation.

# Chapter Four -
# Bycatch Policy in the Reagan/Bush Era (1980-1992)

## 4.1 Introduction

Several of the events of the 1970s contributed to the success of Ronald Reagan's 1980 election campaign, based in part on the policy of federal downsizing. What have been described as the halcyon days of the 1970s fell at the hands of political deceit culminating in a failed Presidency domestically; and internationally a loss of confidence in the supremacy of the U.S. due to the Arab oil embargo, the climb in interest rates, and the embarrassment of the Iran hostage crisis.[1]

> The [Reagan] campaign rhetoric of economic vitality, the virtues of free enterprise, a strong national defense, and a reduced role for the federal government became translated into policy with unusual speed and success. For ocean policy, this resulted in three major themes. First policy was determined primarily by the budget, not substantive definitions of public problems. Second, the scientific and technical ethos which dominated the ocean agencies was challenged by perspectives grounded in political ideology. Third, the consequence of these approaches to public policy was an increase in conflict at all levels of government.[2]

In the event, the use of the budget as the primary tool for policy making proved highly successful. Major policy shifts were promoted by sharp reductions in, or elimination of, funds to specific projects. As a consequence of the open hostility of the White House to the oceans issue area, between 1983 and 1990 the U.S. lost its capacity to speak with one voice on the marine platform.[3] The conflict that emerged as representative of the Reagan era is well evidenced in relations between Congress and the Executive in terms of appropriations allocated to many oceans agencies and programs.[4] Another byproduct of this period was the undermining of the strong bipartisan consensus that had been adopted in the 1970s in relation to oceans policy.[5]

Insofar as the bureaucracy is concerned the 1980s was a period of considerable job reduction and conflict. The test for appointment was political ideology, based upon

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1 Curlin, J., "Federalism and Ocean Policy - A Commentary" (1988) 20 *Marine Technology Society Journal* 3.

2 King, L. and Jennings, F., "The Executive and the Oceans: Three Decades of United States Marine Policy" (1990) 22 *Marine Technology Society Journal* 17 at 22.

3 Miles, E. and Fluharty, D., "U.S. Interests in the North Pacific" (1991) 22 *Ocean Development and International Law* 315.

4 Cicin-Sain, B., "Managing the Ocean Commons: U.S. Marine Programs in the Seventies and Eighties" (1982) 16 *Marine Technology Society Journal* 4.

5 King and Jennings (1990) *op. cit.* n2.

the belief that such a commitment was synonymous with a high level of competence.[6] This impacted heavily upon existing members of the civil service who were loath to see appointees who appeared hostile to the very programs they were charged to manage. And as conflict between these groups rose, communications within and amongst agencies plummeted.[7] From this overarching position, the oceans community struggled to implement the concepts of environmental protection enacted in the more prosperous days of the 1970s.

The development of oceans policy in the 1980s has been well characterised as a period of "consolidation, implementation and introspection".[8] Indeed one author assesses the period in the following manner

> marine affairs was never on the platform of the Reagan administration, is not prominent on the agenda of the Bush administration. Nor does marine affairs today benefit from the leadership of a strong personality in Congress as the field did during the tenure of the late Senator Warren G Magnuson.[9]

Notwithstanding this demise in leadership, Congress remained the primary advocate for oceans programs.

Bycatch initiatives of this era were confined to the expansion and implementation of U.S policies abroad, through the use of both trade sanction and multilateral negotiation. The U.S. fishing effort grew far more rapidly than expected, with the result that by the end of 1989 there was no longer any directed foreign fishing in the U.S. zone.[10] Rather than access to U.S. waters, conflicts arose over the entirely new issue of access to markets. Numerous foreign fleets relied heavily upon the U.S. market to sell their ocean produce, and thus the threat of trade sanctions became and increasingly useful means by which to influence other nations' domestic actions.

Consolidation and fine tuning of existing legislation was the main feature domestically. This was overlaid by a resurgence in NGO involvement. In the late 1980s the

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6 "A Reporter at Large" *The New Yorker*, 16 March 1981.

7 Davies, C., "Environmental Institutions and the Reagan administration" in Vig, N. and Kraft, M. *Environmental Policy in the 1980s: Reagan's New Agenda* (Congressional Quarterly Inc., Washington DC, 1984) pp.143-160.

8 Curlin (1988) *op. cit.* n1 at 3.

9 Miller, M. and Broches, C., "Congress, Issue Networks and Marine Affairs" (1989) 17 *Coastal Management* 263 at 264-5.

10 Access controls to the FCZ were harnessed as a means to stimulate joint ventures between U.S. and foreign fleets, thus building America's domestic effort. By 1987 U.S. vessels accounted for more than 90 percent of the catch in the U.S. zone. Joint ventures began to decline in 1988. In 1989 the U.S. enacted legislation prohibiting the fishing of U.S. waters by foreign vessels, except where there is an excess catch not allocated to a U.S. harvester. Per. comm. Eugene Buck, Environment and Natural Resources Section, Congressional Research Service, Library of Congress, Washington DC, 23 March 1999.

environmental coalition escalated its campaigns and made a concerted attempt to reduce the incidental catch of marine mammals. A hostile executive stimulated an increase in the use of the courts and public pressure via the market as a means for influencing bycatch policy action. The Reagan administration's attacks on the environment had acted to stimulate NGO membership, along with James Watt's alleged mis-stewardship of the nation's resources as Reagan's first Secretary of Interior.[11] Further, any concern that the environmental movement would follow the classic social movement scenario of a rapid demise after a period of popularity, was negated.

The fiscal austerity of the 1980s and political forces aimed at reducing the size and presence of the federal government led also to a "quiet revolution" among the states, where renewed vigor in their programs emerged to fill the vacuum created by federal downsizings.[12] Indeed at times the state of Alaska seemed almost in sole control of U.S. fisheries policy.

> It is fair to say that between 1983 and 1991 the Department of State and the NMFS were in an advanced stage of disarray, that the federal government had largely abdicated its management responsibilities, and that the initiative on fisheries issues in the North Pacific for the U.S. had passed to the state of Alaska, led by Senator Ted Stevens.[13]

## 4.2 The United Nations Convention on the Law of the Sea 1982

UNCLOS III negotiations began in 1974 and concluded in 1982 at which time the Convention opened for signatures, requiring the endorsement of 60 nations so as to become active. U.S. objectives at the beginning were varied, and included the stabilisation of international oceans law, the protection of free navigation, the establishment of clear ownership of the resources out to 200nm, and the creation of a deep seabed minerals regime based upon free market principles.

In terms of fishing rights, the Law of the Sea Convention (LOSC) extended coastal State jurisdiction to 200nm and circumscribed freedom of fishing on the high seas. It gave coastal States the sovereign right to exploit, explore, conserve and manage living

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11 Between 1980 and 1983 the Wilderness Society grew by 144%, the Sierra Club by 90% and Defenders of Wildlife and the Friends of the Earth by about 40% each (Mitchell, R., Mertig, A. and Dunlap, R., Twenty Years of Environmental Mobilisation: Trends among National Environmental Organisations" (1991) 4 *Society and Natural Resources* 219).

12 Curlin (1988) *op. cit.* n1. Hershman suggests that there has been an increase in the role of the states in the formation of ocean policy since the 1983 declaration of an EEZ in five key policy areas of coastal zone management, oil pollution control, oil and gas development, marine mammals, and fisheries. Hershman, M., "Ocean Management Policy Development in Subnational Units of Government: Examples from the United States" (1996) 32 *Ocean & Coastal Management* 25.

13 Miles and Fluharty (1991) *op. cit.* n3 at 316.

and non-living resources of the seabed and subsoil of super adjacent waters as an essentially non third party reviewable right.[14] The LOSC then required that coastal States "use it or lose it"; that is they must utilise the resources within their zones or else allocate quotas to other nations based upon principles of equity for disadvantaged States or prior usage claimants. With respect to conservation aspects, concomitant to the right of exploitation a responsibility to ensure the maintenance of marine living-resources — that is a duty of conservation — was created, along with a requirement that in so doing the best available scientific evidence be taken into account.[15]

The 1982 LOSC addressed bycatch conservation through the consideration of both "dependant" and "associated species". In Article 119(3) States are enjoined to take into consideration effects of harvesting a target stock upon associated and dependant species, with a view to maintaining or restoring populations of such species above levels at which their reproduction may become seriously threatened. This injunction required nations to assess effects of fishing on such species using the best scientific evidence available, and where data suggested that fishing operations may impact upon a species such that its reproductive abundance level would become severely threatened or depleted, the dependant or associated species and impact should be considered in management decisions.

Though the LOSC recognised the predominant interest of coastal States in straddling stock beyond their EEZ, it failed to adequately resolve the issue of the management and ownership of these stocks.[16] The treaty stipulated that coastal nations and relevant DWFNs shall seek to agree on conservation measures applicable beyond the EEZ through either direct negotiations or via a regional authority.[17] Importantly however nothing in the LOSC authorised one nation to take action on the high seas to enforce a conservation obligation of another fishing State.[18] Possible instrumentalities remain, as before the Convention, in diplomatic actions, domestic remedies and international sanctions. Moreover, no punishment was to be inflicted upon States that fail to reach agreements. Similar shortcomings plagued the management of highly migratory species. These include:

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14 United Nations Convention on the Law of the Sea, 21 I.L.M. 1261 (1982) (hereafter "LOSC"), Articles 60(a), 297(3).

15 *Ibid*, Article 61. For discussion see Tsamenyi, M. and Aqorau, T., "Fishing Rights and Responsibilities at Sea: Analysis of Relevant Provisions of the United Nations Convention on the Law of the Sea" in Tsamenyi, M. and Herriman, M., *Rights and Responsibilities in the Maritime Environment: National and International Dilemmas* (University of Wollongong, Wollongong,1996) pp.67-81.

16 *Ibid*, Article 116.

17 *Ibid*, Articles 63, 117-119.

18 Panel on the Law of Ocean Uses, "U.S. Interests and the United Nations Convention on the Law of the Sea" (1990) 21 *Ocean Development and International Law* 373.

- a absence of binding dispute resolution;
- a lack of compatibility between domestic and international management measures;
- inconsistencies in management throughout the range of the fish;
- insufficient monitoring for compliance, enforcement and reduction of effort;
- the insertion of politics; and
- scientific concerns over the method of setting the allowable catches and the consequential potential for over exploitation.

At the conclusion of negotiations President Reagan announced that the U.S. had a range of perceived problems with the deep seabed mining regime.[19] President Reagan's refusal to sign the new Convention also reflected the Executive branch's desire for a retreat from the U.S.'s previously prominent position with regard to international marine activities.

Simultaneously to rejecting the LOSC based on the narrow issue of sea bed mining rights, President Reagan issued a proclamation with respect to the creation of a U.S. EEZ to replace the existing FCZ.[20] Notwithstanding his refusal to sign, Reagan declared the U.S. would act in accordance with the Convention (with the exception of the deep seabed mining regime) and expected other nations to follow suite.[21] This move was seen more as a gesture of commitment to a free enterprise system than as a policy of any real substance.[22]

The Presidential statement was careful to iterate that the establishment of an EEZ did not alter U.S. fisheries policy, and that the U.S. did not exercise jurisdiction over "highly migratory species of tuna" maintaining these must be managed by international agreements. As well as its relevance in the ETP this was significant for South Pacific nations, where the U.S had carried out tuna purse-seining operations since 1976, and which had rapidly expanded in the early 1980s. [23] The LOSC legitimised the creation of the South Pacific nation's EEZs and in accordance with the Convention they

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19 Statement of the President, 18 *Weekly Comp. Pres. Doc.* 887 (9 July 1982). These included the lack of reflection of "interests" in the decision-making process, the requirement for technology transfer, and the absence of assurance provisions so as to promote to development of these resources. Several years after the United States' and several other major western Nations' refusal to sign the LOSC the Secretary-General of the United Nations initiated a series of informal consultation. These ongoing negotiations have had a significant impact upon other issues being debated at the same time.

20 *A Proclamation by the President: Exclusive Economic Zone of the United States* (10 March 1983), reprinted in "Presidents Statement on United States Oceans Policy" (1983) 1 *Public Papers* 378. 48 Fed. Reg. 10,605 (1983).

21 The U.S. President contended that these assertions were valid as the tenor of the LOSC generally conformed to existing international practice.

22 King and Jennings (1990) *op. cit.* n2.

23 Herrick, S., Rader, B. and Squires, D., "Access Fees and Economic Benefits in the Western Pacific United States Purse Seine Tuna Fishery" (1997) 21 *Marine Policy* 83.

claimed jurisdiction over the tuna within their zones. Such declarations were at odds with U.S. policy regarding tuna. In September 1984 this problem was resolved through the formation of a treaty between the US and South Pacific.[24]

## 4.3 Catch & Bycatch in Long Pelagic Driftnets - An International Issue

### U.S. Interests in North Pacific Driftnetting

North Pacific high seas driftnetting operations have been conducted by South Korean, Taiwanese and Japanese fleets targeting salmon, squid, tuna and shark.[25] Although many of these operations have a long history, the origin of large scale contemporary driftnetting in the North Pacific Ocean and Bering Sea can be traced back to only 1979, when Japanese, Taiwanese and South Korean fishers launched their neon flying squid driftnet fishing operations. Since this time North Pacific driftnet fishing operations and the targeting by DWFNs of U.S. spawned salmon has troubled relations between these countries.[26]

Insofar as these operations were concerned the only fishery that operated under the auspice of an international convention was the Japanese salmon fleet. In May 1952 Canada, the U.S. and Japan entered into a consensus based, international convention concerning Japanese high seas driftnet fisheries operations in the North Pacific Ocean.[27] The North Pacific Fisheries Convention (NPFC) became active in 1953 and was implemented by the U.S. through the North Pacific Fisheries Act of 1954.[28] The NPFC was established to conserve fish resources, especially salmon, by regulating the Japanese high seas mothership and land-based salmon driftnet fisheries.[29] To this end

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24 The Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States, 26 I.L.M.136 (1987).

25 Per. comm. Dr Robert Hofman, Scientific Program Director, Marine Mammal Commission, Washington DC,15 April 1999.

26 Because salmon originate from and spawn within national boundaries, but migrate to the high seas over their life cycle, the international legal regimes to ascribe harvesting rights have proven difficult to enforce. Sumi, K., "The International Legal Issues Concerning the Use of Drift Nets, with Special Emphasis on Japanese Practices and Responses", in VanDyke, J., Zaelke, D. and Hewison, G. (ed), *Freedom for the Seas in the 21st Century - Ocean Governance and Environmental Harmony* (Greenpeace Inc., Washington DC, 1993) pp.292-309.

27 International Convention for the High Seas Fisheries of the North Pacific Ocean, 25 U.N.T.S. 65. (1952) (hereafter "North Pacific Fisheries Convention" or "NPFC").

28 With the 1951 signing of the Peace Treaty, Japan was restored its sovereignty and a new phase of U.S.-Japan fishing relations was entered into. The Peace Treaty required Japan to

> enter promptly into negotiations with the Allied Powers so desiring for the conclusion of bilateral and multilateral agreements providing for the regulation or limitation of fishing and the conservation and development of fisheries on the high seas (136 U.N.T.S. 45 (1951)).

29 Eisenbud, R., "Problems and Prospects for the Pelagic Driftnet" (1985) 12 *Environmental Affairs* 473.

it specified an eastern boundary, and imposed time and effort restrictions upon Japanese high seas salmon driftnet operations in the North Pacific.

Like the IATTC convention discussed in Chapter Three, the NPFC promoted and coordinated scientific studies relating to fish resources. It established the International North Pacific Fisheries Commission (INPFC), which was charged with the task of data analysis and the recommendation of amendments to the Convention.

In 1972 U.S.-Japanese agreement prohibiting the take of certain sea birds was created. Serious domestic attention had been given to the decline of species of migratory birds.[30] National efforts were however seen as superflourious unless coordinated between other nations into whose jurisdiction the birds venture. Hence and quite separate to NPFC though also on a regional basis, the impact of driftnet fishing on sea birds had been tackled. The Convention for the Protection of Migratory Birds and Birds in Danger of Extinction and Their Environment treaty was the first to overtly recognise the recreational, aesthetic, scientific and economic value of seabirds.[31] Hundreds of thousands of birds are incidentally killed in the driftnet fisheries of the North Pacific Ocean. [32] Sixteen species of seabirds were incidentally captured by the Japanese Salmon motherfleet, thirteen of which were listed in an annex to a U.S.-Japan agreement. The Convention required that listed seabirds be maintained at optimum numbers, a similar concept to that of the OSP in the MMPA.

In the U.S., these Conventions are implemented via the *Migratory Bird Treaty Act* (MBTA)[33] and administered by the Department of Interior under the portfolio of the FWS. Legal advice from the Assistant Solicitor of the FWS however suggested that the incidental take of listed migratory seabirds by non-U.S. citizens, whilst constituting an offence under U.S. law, can only be prosecuted if occurring within the territorial waters.[34] This advice was based primarily upon the absence of clear Congressional

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30 Migratory birds were first afforded statutory consideration at the turn of the century, see *Protection of Migratory Game and Insectivorous Birds Act* of 1900, 31 Stat. 187.

31 Convention Between United States and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction, and their Environment, U.S.-Jap. 25 U.S.T. 3329 (1972) (hereafter "Migratory Bird Treaty").

32 Data from the early 1970s had suggested that over 500,000 diving seabirds ere taken each year, severely exceeding the recruitment rate. Eisenbud (1985) *op. cit.* n29, at 477.

33 *Migratory Bird Treaty Act* of 1918, 40 Stat. 775 (hereafter "MBTA").

The U.S. had concluded earlier agreements with Canada (Convention Between the United States and Great Britain (For Dominion of Canada) for the Protection of Migratory Birds in the United States and Canada, U.S.-Gr. Brit. (1916)) and Mexico (Convention Between the United States of America and the United Mexican States for the Protection of Migratory Birds and Game Mammals (1936)).

34 Memorandum of 11 December 1980 from the Assistant Solicitor of the FWS to the Chief, Division of Law Enforcement, concerning extraterritorial application of section 2 of the *Migratory Bird Treaty Act*; Memorandum of 27 March 1981, from Assistant Solicitor FWS, to Office of Migratory Bird Management concerning U.S.- Japan Migratory Bird Treaty.

statement of extraterritorial application of the Act.[35] Thus and notwithstanding the presence of the treaty, no active efforts to ensure its enforcement were undertaken by Department of Interior.

In 1976, a Protocol was added to the NPFC to reflect the establishment of the U.S. 200nm FCZ.[36] Although the Protocol reduced the total area in which Japanese salmon fishers could operate, it granted to the Japanese limited rights to fish within the newly claimed U.S. waters. Operations were excluded from Bristol Bay area and focused around the west coast of Alaska where the primary competition for resources was from indigenous Alaskan fishers.[37] The addendum moreover provided that until June 1981 the Japanese mothership salmon fleet would remain exempt from the requirements of the MMPA, which would otherwise have prohibited the incidental take of marine mammals within U.S. waters and thus caused the cessation of driftnet fishing operations. During this intervening five year period both nations were directed to (1) conduct research into the impact of fishing on marine mammal populations and (2) seek to reduce or eliminate the bycatch thereof.[38] The *North Pacific Fisheries Act* was amended to implement these provisions.[39]

In 1978 the INPFC began to assume responsibilities for reducing the incidental take of non-target species through its creation of an ad hoc Committee on Marine Mammals. Three years later the U.S. and Japan signed an MOU calling for research into the take of dall's porpoises. Also in 1981, under the auspice of the MMPA, NMFS promulgated regulations for a five year permit for the Federation of Japan Salmon Fisheries Cooperative Association. This allowed for the continued take within the U.S. FCZ of a variety of marine mammals incidental to driftnetting operations.[40]

Around this time however high seas squid driftnet operations began a rapid expansion. By 1981 the Japanese fleet numbered 534 vessels, and a fleet of 180 Taiwanese and Korean flag vessels had commenced operations. Two issues arose out of this rapid expansion of North Pacific driftnet operations. Firstly Korean and

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35 MBTA, §703, [s1].

36 Notwithstanding the expansion of U.S. jurisdiction, the MBTA was not extended beyond 12nm.

37 Per. comm. Rod Moore, Executive Director, West Coast Seafood Processors Association, Portland (OR), 31 March 1999.

38 North Pacific Fisheries Convention, Annex, para. (1)(c).

39 *North Pacific Fisheries Act* of 1954, 68 Stat 698.

40 The take of 5500 Dall's Porpoises, 450 northern fur seals, and 25 Steller's sea lions was authorised. 42 Fed. Reg. 27,056, 27,063 (1981) "Recommended Decision of Administrative Law Judge: Final Decision Issuance of Permit and Final Rule on Regulations to Govern the Taking of Marine Mammals Incidental to Salmon Fishing Operations".

Taiwanese fishers were accused of illegal capture of salmon.[41] Secondly the ecological impacts of driftnetting rose in prominence.

Stemming from the dual effects of driftnet fishing, unusual alliances emerged.

> Environmentalists and the U.S. industry joined forces to oppose Japanese pelagic fishing. Since the U.S. salmon fishers did not use driftnets on the high seas, elimination of driftnet fishing meant both elimination of foreign competition and an environmentally destructive practice. ... The two groups proved to be a powerful political coalition in the Northwest.[42]

Several advocate groups were formed in the 1980s in the U.S. in opposition to the use of pelagic driftnets on the high seas. The first was a combination of west coast fishers. The second, known as SEACOPS, linked the British Colombian fishing industry in Canada, with the Congressional delegates of all U.S. west coast states and a variety of environmental organizations.[43] Thirdly Senator Ted Stevens and later Congressman Young assumed a role as advocates for Alaskan, and in particular indigenous, salmon interests.

The issues for the fisher groups was clear — they desired the removal of Japanese motherships, and Japanese, Taiwanese and Korean driftnet fishing operators from the high seas.[44] Seattle based Alaskan salmon fishers had long sought a ban on all high seas salmon fishing.[45] SEACOPS in particular claimed that salmon illegally caught by DWFNs was being transferred to motherships and then sold back to U.S. and European fish markets through other countries.[46]

The involvement of Congressional delegates was simply in a supporting capacity, and involved no more than the promotion of one of their major constituent's efforts for the

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41 Eisenbud (1985) *op. cit.* n29; Davis, L., "Northern Pacific Pelagic Driftnetting: Untangling the High Seas Controversy" (1991) 64 *Southern Californian Law Review* 1057. Because salmon does not originate or spawn in either Taiwan or South Korea neither nation has rights to fish for these highly migratory species. Notwithstanding the lack of rights to harvest salmon there have been several reported incidences of the targeting of salmon by nations driftnet fishers

42 Walsh, V., "Eliminating Driftnets from the North Pacific Ocean: U.S.-Japanese Cooperation in the International North Pacific Fisheries Commission, 1953-1993" (1998) 29 *Ocean Development and International Law* 295 at 308.

43 SEACORPS is the Southeast Alaskan Coalition Opposed to Piracy of Salmon.

44 For figures on salmon harvests see Davis (1991) *op. cit.* n41 at 1068, footnote 99.

45 Problems of indiscriminate take and overfishing due to the driftnet technique had been considered elsewhere. A progressive precedent had been set by the Danish government. The Danish high seas salmon long driftnet fishery in the Atlantic Ocean was closed in 1976 due to the combined impact it had upon bycatch species and fish stock.

46 "A Group Policing the Sea" *L.A. Times*, 22 June 1990. See also Johnston, D., "The Driftnetting Problem in the Pacific Ocean: Legal Considerations and Diplomatic Options" (1990) 21 *Ocean Development and International Law* 5. To counter the problem of Taiwanese illegal salmon fishing the Taiwanese government placed a prohibition on the export of salmon and the Japanese government on the import of salmon from Taiwan.

removal of "foreign transgressors".[47] Environmentalists were motivated by the indiscriminate nature of driftnet fishing. They sought to protect marine mammals and seabirds and prevent their incidental take in driftnets. The involvement of this last group — with non-material interests — proved to be of significant value in efforts to mobilise both financial and political support.[48]

It was estimated that by 1985 approximately 1693 pelagic driftnet vessels set over 20,503 miles of net every day during the North Pacific fishing season, totaling and estimated 1,065,510 miles each year.[49] Notwithstanding the growing impacts of the high seas operations, the U.S.-Japanese seabird Convention was still not enforced by either the U.S. or Japanese government in respect of Japanese salmon vessels' seabird bycatch.[50] Nor had the validity of the Department of Interior's interpretation of the Act been tried in court. One commentary suggested that the selection of cases upon which the precedent for this advice was based may be misleading and that the Act indeed did have an extraterritorial application.[51] The authors noted that

> [a]t the present time, far less controversy surrounds the international treaties for migratory birds than other issue areas. Environmental groups, however, have not thoroughly researched the possible leverage they might have in the legal arena with respect to domestic implementation of the ... provisions of the treaties. It is not clear, either, to what extent pressure could be applied by the United States to encourage more active protection ... in other countries. [52]

In 1986 the Japanese permit for marine mammal take in the U.S. EEZ expired. The U.S. government and Japanese fishers entered into compromise negotiations, the outcome of which was an offer by the U.S. government to chose between access to the Bering sea salmon fishery or groundfish within the U.S. EEZ. Japanese fishers chose the latter. As a part of the deal the parties developed an agreement as to a scheme of zonations wherein gillnets could safely be deployed without the incidental capture of common murres. The threat of the *Migratory Bird Treaty Act's* strict no take provisions had provided sufficient impetus to ensure Japanese cooperation.[53]

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47 Burke, W., Freeburg, M. and Miles, E., "United Nations Resolutions on Driftnet Fishing: An Unsustainable Precedent for High Seas and Coastal Fisheries Management" (1994) 25 *Ocean Development and International Law* 127 at 139.

48 Per. comm. Rod Moore *op. cit.* n37.

49 Eisenbud (1985) *op. cit.* n29.

50 *Ibid.*

51 *Ibid.*

52 Miles and Fluharty (1991) *op. cit.* n3 at 337.

53 Iudicello, S. and Lytle, M., "Marine Biodiversity and International Law: Instruments and Institutions that can be used to Conserve Marine Biological Diversity Internationally" (1994) 8 *Tulane Environmental Law Journal* 123.

NMFS also promulgated a permit for the incidental take of 6,039 Dall's porpoise over a three year period. No reference was made, however, to northern fur seals, their take was prohibited under the MMPA due to populations being found to be below their optimal sustainable level. Regardless, an agreement to fish the region had been made between the U.S. government and Japanese fishers, and on these grounds the Federation of Japan Salmon Fisheries Cooperative Association filed suit for a quota to be allocated for the take of depleted northern fur seals.

Meanwhile, the allowance of Japanese fishing within the EEZ and the allocation of a quota for the take of Dall's porpoise was met with considerable opposition from both North Pacific fishers and NGOs. Acting on behalf of Alaskan subsistence fishers the Center for Environmental Education (CEE)[54] filed a lawsuit based upon alleged violation of MMPA provisions. The Kokechik Fishermen's Association sought to enjoin the permit which authorised the Federation of Japanese Salmon Fisheries Cooperative Associations to take Dall's porpoise incidental to its fishing operations. They claimed that in allowing the bycatch of Dall's porpoise other species which were not permissible bycatch would also be taken, for example the northern fur seal.

In *Kokechik Fishermen's Association v. Secretary of Commerce*[55] the court found in favour of the plaintiff. Further though, it called into question the legality of the permit system for marine mammal bycatch as established by NMFS. The court ruled that a permit could not be issued that would result in the bycatch of a protected marine mammal without first ascertaining whether that species had reached an optimum sustainable population level.[56] Furthermore, an incidental takings permit could not be issued for one species in circumstances where the unpermitted taking of another species would result.

In light of the *Kokechik* decision elements of the bureaucracy became concerned that NPFC relations would suffer.[57] The Secretary of Commerce conveyed this concern to Congress during the 1988 MMPA reauthorisation hearings, and requested an exemption to foreign vessels be provided. Congress was not sympathetic to this request, however. Thus the last of Japanese fishing operations within the U.S. EEZ ceased.

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54 Later renamed the Center for Marine Conservation (CMC).

55 *Kokechik Fishermen's Association v. Secretary of Commerce*, 839 F.2d 795 (D.C. Cir. 1988) cert. denied, 488 U.S. 1004 (1989) (hereafter "Kokechik").

56 *Ibid* at 802.

57 *MMPA Amendments of 1988, House of Representatives Report (Marine Merchant and Fisheries Committee)* No. 100-970 [To accompany H.R. 1489], 100th Cong., 2d Sess. (1988), reprinted in 1988 U.S.C.C.A.N. 6154 (hereafter "H.R. Rep. 100-970").

The situation on the high seas however did not improve. In fact in 1986 it escalated with the documentation of Taiwanese/Japanese harvesting/marketing operations and in 1988 large scale illegal salmon fishing by Taiwanese vessels on the high seas.[58] United States and Canadian fishers escalated their complaints that decreased catches, and the dumping of salmon on the world market had caused a significant downturn in prices.[59]

The problem of incidental capture of other species also rose in prominence.[60] In 1983 estimates emerged suggesting that Japan's 172 strong catcherboat fleet — which constituted less than 10% of the combined pelagic long driftnet fleet — caused the mortality of 5,500 Dall's porpoise, and between 250,000 and 750,000 seabirds each year.[61] By the mid 1980s the North Pacific Japanese driftnet fleet had grown considerably.[62]

Environmental groups, in particular Greenpeace, raised concerns about the high level of conservation significant bycatch taken by driftnet. Also problematic were the indirect ecosystemic impacts caused by ghost fishing by lost or discarded nets. The extent of this, although unquantified, was believed to be enormous. Although at a glance appearing a small figure, it was estimated that 0.06% of Japanese salmon driftnets were lost.[63] Converted into solid figures this makes 12 miles per night. Added to this are the other Japanese and DWFN fisheries totaling an estimated 639 miles of lost net each year. Added to this sum are discarded nets. Due to the threat of capture for illegal fishing in prohibited waters nets were not infrequently abandoned and left to ghost fish the oceans.

Although consideration of the driftnet issue was well within INPFC's brief, the forum was predominantly scientific and thus poorly equipped to formulate a remedy. Moreover, and regardless of its capacity, the limited membership of the INPFC meant that even had restrictions been formulated, they would have been of only partial effect.

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58 In 1986 the NMFS seized a shipment of almost 600,000 lbs of salmon bound from Taiwan to Japan. In 1988 the Soviet Union seized four Taiwanese vessels targeting salmonoid on the high seas (Miles and Fluharty (1991) *op. cit.* n3). Thus the fishers' claims were confirmed.

59 The Pacific Seafood Processors Association produced evidence of substantial salmon sales on the international market at a price about 50% below the U.S. export price. These increased sales appeared to have come from Taiwan with Japan acting as an intermediary. Under U.S. pressure Japan placed a prohibition on the import of salmon from any nation in which salmon was not produced. See *ibid.*

60 Burke et al. (1994) *op. cit.* n47 at 134

61 Jones, L. and Actor, L., *Progress Report for 1983 Field Research on Dall's Porpoise Incidentally Taken in the Japanese Salmon Gillnet Fishery* (Ad Hoc Committee on Marine Mammals, International North Pacific Fisheries Commission, 1983), cited in Eisenbud (1985) *op. cit.* n29 at 474.

62 The Japanese salmon driftnet fishery consisted of four mother boats and nearly 400 catcherboats and land based fleet vessels. Moreover, the Japanese squid fishery had 511 vessels and a third fishery targeting marlin and other billfish comprised 600 driftnet vessels.

63 Eisenbud (1985) *op. cit.* n29.

The rapid expansion of the salmon driftnet fleet far outpaced the development of arrangements by which such operations could be managed, monitored and regulated. Recognising the lack of comprehensive data concerning the impact of this highly unselective fishing method the U.S. enacted the , the *Driftnet Impact, Monitoring, Assessment and Control Act*,[64] as part of the *Marine Plastic Pollution and Control Act* of 1987.

Other than periodic reauthorisations this was the first major legislative initiative in relation to marine bycatch since the very early 1980s — a reflection of the step away from administration that was part of the broader anti-government philosophy of the Reagan administration. Throughout the period 1981 to 1986 both the Republican Senate and Democratic House however had continued to oppose the extension of this philosophy into a reduction of marine funding, leaving the situation at a policy stalemate. Divided authority made a clear shift towards the Democrats side and by 1987 it dominated both houses, creating an enhanced chance of seeing the same policy changes agreed to across Congress, and at the least ensure that proposals would be seriously considered.[65] Another shift within Congress were developments in relation to leadership on key committees and the dispersal of key ocean interests from the Senate into the House.[66]

The Driftnet Control Act was clearly intended to regulate nations driftnetting in the North Pacific region[67] — indeed some commentators have suggested the primary aim was the elimination of such activities all together.[68] It was directed primarily at Taiwanese high seas driftnet fishers' illegal targeting of salmon.[69] The Act required that the U.S. Secretary of State negotiate monitoring and enforcement agreements with nations who had high seas driftnetting fleets. The Act recognised the high level of bycatch that can result from driftnetting operations, and the need for improved high seas data and aimed to "monitor assess and reduce the adverse impacts of

64 *Driftnet, Impact, Monitoring, Assessment and Control Act* of 1987, Pub. L. No. 100-220, 101 Stat. 1477 (hereafter "Driftnet Control Act").

65 Knecht, R., Cicin-Sain, B. and Archer, J., "National Oceans Policy: A Window of Opportunity" (1988) 19 *Ocean Development and International Law* 113.

66 The House of Representatives Subcommittee on Oceanography new chair was Mike Lowry a representative of an ocean oriented and environmentally sensitive constituency. Representative Gerry Studds took the chair of the House of Representatives Subcommittee on Fisheries and Wildlife Conservation and the Environment. New members of senate who were prominent ocean activists included Senators Barbara Mikulski and John Breaux. For discussion on initiatives around this time see *ibid.*

67 Driftnet Control Act, §1822, [s202].

68 Sumi (1993) *op. cit.* n26.

69 South Korea does not appear to market illegally caught salmon internationally.

driftnets".[70] To this end it called for the creation of scientific and research programs and the deployment of observers.

In case agreement was not forthcoming, the Driftnet Control Act endorsed the certification procedures of the Pelly Amendment. It set a deadline for the creation of bilateral agreements at 29 June 1989, at which time if no such agreement has been reached, Pelly Amendment provisions would be activated and these nations certified to the President.[71]

The U.S. subsequently entered into a series of bilateral negotiations with each of Japan, South Korea and Taiwan. Japan formed an agreement by 23 June 1989, six days before the statutory deadline expired. Taiwan and South Korea had not managed to create similar arrangements and consequently the certification procedure under the Act would be commenced.[72] Several hundred million fish import dollars were at risk, and once again the threat of sanctions provided significant motivation for agreements to be formed.[73] Hasty temporary arrangements with South Korea and Taiwan were executed by 8 September 1989. Although these agreements did provide some information, data and relief they were only an initial step and did not create a regulatory regime for driftnetting on the high seas.

Meanwhile the domestic political situation with respect to driftnets had become treacherous. In light of the slow progress and anticipation of the weak outcome, a conference was convened between officials from British Colombia, Alaska, Washington, Idaho, Oregon, California and Hawaii along with NGO and industry representatives in July 1989. In November, and as an outcome of the conference, a six part declaration was issued calling on action from the Canadian and U.S. federal governments. They requested the respective governments:

1. seek reductions in the Japanese high seas salmon fisheries;
2. seek additional measures to reduce the impact of high seas squid fleets on salmonoids, albacore, seabirds, marine mammals, another living marine resources;
3. take immediate action to establish a new convention in the North Pacific (between Canada, Japan, U.S.S.R. and the U.S.) to prohibit the take of salmon beyond a coastal states 200nm EEZ;

70 Driftnet Control Act, §1822, [s202].

71 Furthermore, if bilateral agreements proved to be ineffective then the Secretary of Commerce was required to certify those states under the Pelly Amendment which then allows for the imposition of trade sanctions upon the fisheries products of the nations in question.

72 Davis (1991) *op. cit.* n41.

73 In 1988 Taiwan's fishery imports totaled $US320,000,000 and South Korea's were valued at $US250,000,000. *Ibid.*

4. take immediate steps to form a multinational research organisation in the North Pacific;
5. secure long term commitments of substantially increased fiscal and personnel resources for monitoring and enforcement of international agreements; and
6. negotiate agreements to prohibit the sale, import or transshipments of salmon illegally harvested on the high seas.

## International Action—The 1989 UN Resolution

The problem of marine bycatch in long driftnets had first been raised in a truly international forum at the 1984 World Conference on Fisheries Management and Development convened by the FAO. Greenpeace — recognising nation States' inability to take immediate legally binding action to sanction the practice — submitted a paper to the conference which suggested that an evaluation of the impacts of the practice of pelagic driftnet fishing be undertaken. The conference was urged to adopt a three pronged resolution:

1. to establish effective arrangements for an impartial observer scheme and data collection program, and registration scheme for all pelagic driftnets, indicating both flag state and vessel identity;
2. for information sharing through INPFC and other similar organisations aimed at the creation of legal and administrative arrangements to counter any harmful effect that driftnets may have; and
3. to refrain from further investment in the pelagic driftnet industry until major problems resulting from such fisheries were resolved.

These resolutions were not taken action upon as an agenda item but rather the conference devoted its attention to the construction and adoption of a broad guiding policy document.

The U.S., at this same conference, issued a note to other delegations concerning the indiscriminate nature of driftnet fishing, the high resultant level of bycatch and the impact of ghost fishing. It was suggested that these issues be more appropriately included as an agenda item for discussion by the Committee on Fisheries, a Standing Committee of the FAO, due to meet in April the following year. The Committee, positioned within the Department of Fisheries, was mandated to "conduct periodic review of fishery problems of an international character and to appraise such problems and their possible solutions with a view to concerted action by nations, by FAO and by other intergovernmental bodies".[74] Following this advice the U.S. tabled an agenda

74 Authorised by General Rules of the FAO, Rule XXX(b).

item at the April 1985 FAO Committee on Fisheries (COFI) meeting. In the event no significant action was taken on this issue.

In 1989 the issue of long driftnet fishing was once again raised, this time by the South Pacific nations led by Australia and New Zealand. The chosen forum was United Nations General Assembly (UNGA) of November 1989.[75]

Up until this stage, U.S. interest in the issue had been decidedly half-hearted. Around this time however, with this there was a new administration was elected, and the party structure and White House changed. The new deputy assistant Secretary of State had preciously worked on the staff of House Merchant Marine Fisheries committee, and gradually became interested in the driftnet issue.

> He saw this as something that was a good environmental issue for the republican administration and started taking up the cause internally within the State Department, and as bureaucracies go they run on inertia and you can eventually turn this around especially is you can get some political leadership.[76]

Thus the U.S. stance quickly altered, and, subsequent discussions took place between the Secretary of State James Baker and Senator Ted Stevens. The new position was reinforced by a commitment issued to the U.S. Congress that America would do whatever was necessary to terminate high seas long driftnet fisheries operations.[77] By this time, the resolution had been tabled by the Pacific nations and won the cosponsorship of the U.S..

The tabled resolution highlighted the indiscriminate and wasteful nature of large-scale driftnet fishing; its threat to the conservation of highly migratory and andronomous species of fish, birds and marine mammals; and a notation of the huge impact the activity was having on the south pacific region's ecosystem.[78] By this stage between 1000 and 1500 distant water driftnet vessels were operating on the high seas.[79] The resolution called for continued and enhanced scientific data collection and a review of this by 30 June 1991, an immediate ban on large-scale driftnetting in the south pacific, and a moratorium on all high seas drift net fishing by 30 June 1992 unless the afore mentioned unacceptable impacts could be mitigated. A Japanese draft resolution was subsequently tabled. This emphasised the need to base regulatory action on scientific data and analysis and urged cooperation among states in respect to monitoring and

75 See the Chapter One, Section 1.3 for a discussion on the role of the South Pacific nations and the influence of the Wellington Convention on the 1989 UN General Resolutions.

76 Per. comm. Rod Moore *op. cit.* n37

77 Burke et al. (1994) *op. cit.* n47 at 137.

78 UN Doc. A/C.2/44/L.30, Rev.1 (1989).

79 Johnston (1990) *op. cit.* n46.

mitigation of impacts.[80] The burden of proof of the unsustainable nature of the practice of driftnet fishing was however, in Japan's resolution, placed upon the nation(s) unhappy with the practice. In comparison, the Pacific Nations' resolution followed a precautionary approach and left it to the nation(s) active in driftnet fishing to prove that the practice was not unsustainable.

The resolution as finally adopted was much more complex and considerably more balanced than either of its tabled predecessors.

> The presumed adverse impacts of driftnetting were stated more tentatively, small-scale driftnetting was expressly excepted, and the concern of coastal states for the effect of high seas driftnetting on stocks occurring within their EEZs was noted, along with the special concerns of the South Pacific region.[81]

On December 22, 1989 the UNGA adopted Resolution 44/225 and in so doing recommended:

> (a) Moratoria on all large-scale pelagic driftnet fishing on the high seas by 30 June 1992 with the understanding that such a measure will not be imposed in a region, or if implemented, can be lifted should effective conservation and management measures be taken based upon statistically sound analysis to be jointly made by concerned parties of the international community with an interest in the fishery resources of the region and to ensure the conservation of the living marine resources of that region;
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> (b) Immediate action to reduce progressively large-scale pelagic driftnet fishing activities in the South Pacific region leading to the cessation of such activities by no later than 1 July 1991, as an interim measure, until appropriate conservation and management arrangements for South Pacific albacore tuna resources are entered into by the parties concerned; and
>
> (c) Immediate cessation to further expansion of large-scale pelagic driftnet fishing on the high seas of the North Pacific and all other high seas outside the Pacific Ocean, with the understanding that this measure will be reviewed subject to the conditions in (a).[82]

In addition, paragraph eight iterated that regulations for the conservation and management of resources "should take account of the best available scientific evidence". The resolution then recognised the severe lack of statistically reliable scientific information. To remedy this, the collection of data was urged and all specialised fisheries agencies, in particular the FAO, were asked to study the impacts

80 UN Doc. A/C.2/44/L.28 (1989).

81 Burke et al. (1994). *op. cit.* n47 at 141.

82 United Nations: General Assembly Resolution on Large-Scale Pelagic Driftnet Fishing and Its Impact on Living Marine Resources of the World's Oceans and Seas (G.A. Res. 44/225), adopted 22 December 1989; reprinted in 29 I.L.M. 1555 (1990), paragraph 4.

of long pelagic driftnets on the environment and report their findings to the UN secretary general.

Surprisingly perhaps, Japan, the U.S. and the coalition of nations who first raised the issue all supported Resolution 44/225. This wide ranging support is however most likely to be due to different interpretations of the Resolution rather than any commonality of viewpoints.[83] The Japanese, according to one commentator, thought they had secured their interests in the North Pacific, and could continue their operations subject to measures undertaken jointly with the U.S. and Canada.[84]

## The Environmental Coalition and the Data Gathering Efforts

By and large the environmental coalition dictated the agenda and reportage on the issue of driftnet fishing. The well executed aim was to create a sense of urgency and to convince the public that a variety of species were seriously threatened with extinction by the practice.

Strong links were formed between both South Pacific coalitions and their North American counterparts, as a number of key NGOs including Greenpeace, World Wildlife Fund and the Sierra Club both alerted and maintained community and political interest in driftnet fishing. Further and in particular in the U.S.

> ... important links were forged between ... interest groups and the executive and legislative branches of their governments at both state and federal levels. Beyond these dynamics, the environmental coalition worked assiduously with the media to publicise what was perceived to be an immediate threat to the ecosystem of the world ocean.[85]

A perceived community urgency of the issue of driftnet fishing was encouraged by the use of highly visual slogans such as driftnet "curtains of death", or "walls of death" or "marine strip mining".[86] In the U.S., Greenpeace launched a very public campaign wherein a three mile section of a driftnet was placed along the San Francisco waterfront and children were encouraged to write notes pleading for the cessation of this fishing practice.

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83 For a Japanese perspective see Sumi (1993) *op. cit.* n26.

84 Burke et al. (1994) *op. cit.* n47.

85 *Ibid* at 140.

86 For example see: Nobel, G., "The Driftnet Menace: Walls of Death" (1990) September/October *Wildlife Conservation* 50; Tiwari, R., "United Nations: U.S.-Japan Clash Highlights Driftnetting Danger" *Inter Press Service*, 20 November 1990.

Another particularly effective tactic in generating public interest, was the presentation of a video by the Earth Trust. This declared the scale of destruction of Japanese squid driftnets alone to be as follows:

| species | harvest (No. individuals) |
|---|---|
| target catch: | |
| squid | 106 million |
| non-target: | |
| fish* | 39 million |
| salmon | 141,000 |
| blue sharks | 700,000 |
| seabirds | 270,000 |
| marine mammals | 26,000 |
| sea turtles | 406 |

*the figure for "fish" did not include the commercial species of salmon or blue shark.

These values were accompanied by photographs and video images of marine mammals, seabirds, tuna and sharks, and provided a compelling reason to the general public to circumvent the wastage and slaughter through the prohibition of the practice of high seas driftnet fishing.

As well as the raising of public interest, NGO actions were important because of the force they lent to the coalition in the U.S. Congress that was progressing the policy of sanctions being applied to nations who continued to use pelagic driftnets. From this point the issue gained greater political impetus in the U.S., as evidenced by its priority position on the bilateral U.S. Japan talks of that year.[87] The success of the NGO campaign is revealed in that it reached the public and put pressure on politicians in not only the U.S., but also in Europe.

West Coast fishers and their Congressional sponsors capitalised on the high profile the issue of driftnet fishing had achieved.[88] Moreover, their complaints that ongoing salmon piracy was occurring, were supported by an April 16, 1990, NOAA report on high seas salmon interception. This documented U.S. authorities' seizure of over one million pounds of salmon laundered into the U.S. from Hong Kong, Singapore and other far Eastern nations past over the three and a half years.[89] Their grievances with the *Driftnet Impact, Monitoring, Assessment, and Control Act* led to its amendment in 1990, having been deemed insufficient relief.

87 Walsh (1998) *op. cit.* n42.

88 For example the 1990 amendments to the *Driftnet Impact Monitoring, Assessment and Control Act* of 1987 (*Driftnet Amendment Act* of 1990, FCMA §1826, [s206]).

89 Davis (1991) *op. cit.* n41.

The amendments to the Act firstly reiterated the serious threat that driftnetting posed to the marine environment. It then lent its support to the UNGA's permanent ban on driftnet fishing in the south pacific, and under FCMA amendments issued a prohibition on large scale driftnetting inside the U.S. EEZ and by U.S. citizens in other waters.[90] Moreover, the Act sought to obtain a global ban on driftnet fishing.[91] Should this fail to arise, then the Secretary of Commerce was directed to seek monitoring and gear provisions in international agreements so as to facilitate the minimisation of environmental impacts.[92] This Act was too linked to Pelly Amendment provisions. It required that the Secretary of Commerce compile a list of nations that continued to engage in high seas driftnet fishing such that the effectiveness of any international agreement to which the U.S. was a party or subscribed would be diminished (thus several South Pacific conventions to which the U.S. had given in principle support but was not a party were included under this provision). For the purposes of the Pelly Amendment listing was deemed equivalent to certification and thus could result in the application of trade sanctions.[93] At this same time the MMPA was amended so as to ban the importation of fish or fish products caught by or purchased from nations that were known to use large scale driftnets unless documentation could be produced that these operations were not conducted on the high seas.[94]

Sketchy data had been collected from the June and December 1989 Japanese squid fishing season, and on 6 July 1990 figures were released by the NMFS. Extrapolation of the data was discouraged by Department of Commerce officials as it was collected from only 32 boats — that is only 4 percent of the fishery — and as such may be statistically unreliable.[95] The bycatch from the harvest of three million neon flying squid is shown in Table 1.[96]

Although as stated, not statistically reliable, when considering this accounts for only 4 percent of the Japanese squid fishery, the total bycatch for the reminder of this and other DWFN driftnetting operations "*could* be staggering".[97]

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90 The 1990 FCMA amendments prohibited the use of large scale driftnet in American waters or by U.S. nationals. *Driftnet Amendment Act* of 1990, Pub. L. No. 101-627, 104 Stat. 4436, §1826, [s206]. Follow up Regulations acted to prohibit the importation of several species known to be captured in large scale driftnets (50 CFR §216.24(e) (1992)).

91 *Driftnet Amendment Act* of 1990, §1826, [s206].

92 *Ibid.*

93 *Ibid.* §1826a, 1826b, [s206a, 206b].

94 MMPA, §1371(a)(2)(E), [s100(a)(2)(E)].

95 "Japan's North Pacific Squid Fleet Snares Dolphin, Tuna, Birds" *Reuters*, 6 July 1990.

96 "Squid-Fishing Japanese Seen Killing Many Sharks, Dolphins" *The Washington Post*, 8 July 1990.

97 Davis (1991) *op. cit.* n41 at 1067.

The joint action called for in paragraph 4(a) of the 1989 UNGA Resolution was, in the end, undertaken only in the North Pacific Ocean. An observer program was established using nationals from the three fishing nations involved, the U.S. and Canada to obtain data on the number of bycatches of each species in large-scale driftnet operations on the high seas in 1990 harvests. Although not ideal every effort was made to standardise data collection so as to have uniform information by which to assess the impact of this fishing method upon the marine ecosystem.[98]

Table 1: Species caught incidental to the harvest of three million neon flying squid in large-scale driftnet operations on the high seas in 1990.

| species | bycatch (No. individuals) |
|---|---|
| albacore tuna | 59,060 |
| yellowfin tuna | 10,495 |
| skipjacks | 7,155 |
| pomfrets | 1,433,466 |
| salmon | 79 |
| dolphins | 914 |
| porpoises | 141 |
| shearwaters | 8,536 |
| albatrosses | 539 |
| puffins | 25 |
| storm petrels | 17 |
| northern fur seals | 52 |
| sea turtles (leatherbacks) | 22 (9) |

Information gained from the Japanese fleet whose season terminated earlier than that of the fleets of either of the other two nations was discussed at a meeting between scientists from Japan, South Korea, Canada, Taiwan, the U.S., Australia and the United Nations in June 1991. The conclusions drawn from a detailed assessment by this group are represented in Table 2 (below). The review, known as the Sidney Review, was later presented to the United Nations pursuant to Resolution 44/225 and 1990 sequel, Resolution 45/197.[99]

98 For a discussion of the operation and problems involved in the observer program(s) see Burke et al. (1994) *op. cit.* n47 at 148-155.

99 *Scientific Review of North Pacific High Seas Driftnet Fisheries*, report for presentation to the United Nations pursuant to Resolutions 44/225 and 45/197 (Sidney, British Colombia, 11-14 June 1991).

Table 2: Expert conclusions on the impact of Japanese North Pacific squid driftnet fishing operations on non-target species (derived from the Sidney Report)

| Species | Expert conclusions on Japanese driftnet fishing impact |
|---|---|
| CETACEANS: | |
| northern right whale dolphin | Decline in population over the last ten years due to driftnet fishing. Uncertainty regarding the rate and severity of decline. Population will continue to decline if current catch rate is maintained. |
| pacific white-sided dolphin | Currently at a high level of abundance but declining due to take in driftnet operations. |
| Dall's porpoise | Most Dall's porpoise take was from large stocks so the total mortality was not significant. Bycatch of the true i-type stock of Dall's porpoise was of concern however and any bycatch would severely endanger that population. |
| striped dolphin | No estimate of total mortality available. Additional mortality to particular stocks may be detrimental. |
| common dolphin | Insufficient information available for an assessment. |
| other small cetaceans | Small catches of these species unlikely to have a significant effect. |
| large cetaceans | No large cetaceans had been observed in driftnets and it was suggested that it was unlikely that these could be restrained by driftnets. However any mortalities to this group would be detrimental to some species. |
| PINNIPEDS: | |
| northern fur seal | No estimate of impact but noted that the annual deaths from trawls and ghost fishing exceeds the driftnet bycatch. |
| TURTLES: | |
| leatherback turtle | Endangered under IUCN. Threatened with extinction under CITES (Appendix I). Impact may vary from insignificant to very significant depending upon the stock composition of turtles taken. If the turtles came from Mexican stock then take would be insignificant. If originating from Malaysia then the bycatch would be significant due to the severely depleted nature of that stock. |
| loggerhead turtle | Threatened with extinction under CITES (Appendix I). Few recorded bycatches. Provisional agreement that the impact of driftnet fishing on the stock was probably negligible. |
| green turtle | Threatened with extinction under CITES (Appendix I). Endangered under IUCN. As with loggerhead turtle (above). |
| BIRDS: | |
| short-tailed albatross | Recognised as endangered with a population of only 500 individuals. No mortalities from driftnets were recorded and only small numbers appear in the driftnet areas, however any bycatch would be of concern. |
| dark rumpled petrel | As with short-tailed albatross (above). |
| other bird species | Eight other bird species were reviewed but a lack of information on them precluded any impact assessment being made. |
| FISH: | |
| pomfret | Predominant bycatch species. Impact assessment not possible due to the lack of information on total stock size. |
| albacore tuna | Insufficient information available for an assessment. |
| other tuna and billfish | Effected in only minor or insignificant ways by bycatches in driftnet operations. |
| blue sharks | Although making up a significant portion of the bycatch, impacts on the species were assessed to be insignificant. |

This was to be supplemented by another symposium held in Tokyo in the November. Before this was to occur however the U.S. submitted a report to the UN stating its opinion that the continued use of driftnets was not justifiable, and Secretary of State Baker committed the U.S. to the pursuit of a moratorium resolution without further ado.[100] The U.S. policy paper attempted to manipulate Resolution 44/225 such that on review a global prohibition would be inevitable. The resolution was interpreted so as to condition future driftnet operations on achieving:

1. a statistically sound independent demonstration that unacceptable impacts on marine resources would not occur and the rights of other nations would not be impinged upon;
2. an agreement by all affected international members for research monitoring and enforcement of all measures so as to mitigate unacceptable impacts; and
3. a scientific assessment resulting in agreement by all States that no unacceptable impacts would arise.

This last condition in particular was virtually impossible to achieve.

## An International Conclusion to Driftnetting — The UN Resolution

The outcome of the 1991 UN Resolution was based heavily upon the findings of the Sidney Review. The burden from the 1989 resolution place both the onus of both proof and persuasion on driftnetting states. The U.S. used the data from the Sidney report to argue that best scientific data failed to show that there were no adverse impacts from high seas pelagic driftnet fishing, and that hence the concern raised in 1989 had been confirmed.

A large amount of uncertainty surrounded the figures presented from the 1990 Japanese driftnet fishery, and polarised views on the degree to which politics overrode science have been formed. There were suggestions that mortality levels were, in reality, much higher. It was contended that drop-outs from the nets were not accurately counted, and that the actual amount of bycatch was twice that recorded. Furthermore the impacts of ghost fishing were not considered in the calculation of the bycatch level. Moreover the view has been put that though

> you can argue whether the bycatch of marine mammals is significant or not, but the bycatch of things like bluesharks and pomfret are just mind boggeling. Beyond that there was never anything done to try and estimate what the sustainable yield of the squid were. So it was a fishery where some people made an enormous amount of money but where no consideration was ever given to the sustainability of the fishery or its impacts on other things.[101]

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100 Department of State. *U.S. Policy Concerning Large-Scale Pelagic Driftnets*, Submitted to the United Nations' Office for Oceans Affairs and the Law of the Sea (Washington DC, 1990).

101 Per. comm. Dr Bob Hofman *op. cit.* n25.

The alternative school of though maintained that the Japanese fishery was a much more consumptive fishery in terms of bycatch than were either the Taiwanese or Korean fisheries. Indeed the data when collated from the Taiwanese and Korean squid driftnet fisheries showed considerably lower bycatch than that recorded for the Japanese high seas driftnetters. In the event the final data on the Taiwanese and Korean driftnet fishing operations was not ready for some four months after the Japanese data and not released until the September and October of 1991 respectively.[102] The shorter Japanese season was due to a 1990 order from the Fisheries Agency of Japan that all areas west of 170°E were off limits to Japanese driftnet fishers due to the presence of Japanese squid jigging operations. Thus the Taiwanese and Korean fishers who paid no heed to the Japanese order, were able to fish longer and in different areas to the Japanese driftnetters. Confined to its eastern zone the Japanese driftnetting operations suffered a smaller target catch and greater incidental take than it otherwise could have. Due to its lateness in comparison to the already analysed Japanese data used in the Sidney Review the Taiwanese and Korean data was not presented to the UNGA at the time of the passage of Resolution 44/215 in 1991.

This the lack of recognition of the individual nature of each driftnetting fishery, and hence the failure to consider the bycatch and distinct impacts of each may have significantly affected the policy outcome. The three nations' fleets differed in size, in the areas they fished, and the season of fishing.[103] Both the Taiwanese and Korean operators moved westward each August and it was in this period that the bulk of their fishing occurred. Concomitant to this movement was witnessed a tremendous increase in the catch-per-unit-effort (CPUE) of squid. Using pomfret as an indicator species the amount of bycatch in the Taiwanese and Korean fisheries was found to be only to .28 CUPE compared to in Japanese fisheries where it accounted for 70% or 0.7 CUPE. A similar pattern has been suggested to exist with respect to marine mammals and seabirds bycatch too. Such disparities raise the question as to whether the differences were sufficient to warrant individual treatment and management of each fishery. In any event, the three nation States' fisheries were treated together in the United Nations.

In 1991 Resolution 46/215 was introduced to the UNGA to update the earlier resolution and was adopted on 20 December 1991 without a vote.[104] The Resolution

102 Burke et al. (1994) *op. cit.* n47 at 145.

103 *Ibid.*

104 United Nations: General Assembly Resolution on Large-Scale Pelagic Driftnet Fishing and Its Impact on Living Marine Resources of the World's Oceans and Seas (G.A. Res. 46/215), adopted 20 December 1991; reprinted in 31 I.L.M. 241 (1992).

pledged to terminate the practice of driftnet fishing on the high seas by 31 December 1992. Criticisms of the failure to include data from Taiwanese and Korean fishing operations are supported by the more broad concerns regarding the scant role afforded to science in the formation of the Resolutions. Substantive concerns in particular question why the resolution applies only to large scale high seas driftnetting operations when small scale and highly intensive coastal ones are believed to have an enormous impact on the ecosystem and be equally indiscriminate. Indeed specifications as to what length of net constitutes a long driftnet were omitted from the discussion in the UN.[105] Scientifically the issue is whether the impact of the driftnet is contingent on the driftnet's size as although high seas driftnets tend to be long they are not densely located.[106] The second query pertains to why this resolution applies to only the high seas and not the coastal regions. The obvious answer is that a small number of DWFN were easier to target that numerous coastal states, especially as sovereign rights would not then be involved. It is a truism that if an international decision process is perceived to be unfair, then both the decision and the body which made it may loose credibility. It was this concern which led to the call in the 1992 UNCED Agenda 21 call for global implementation of the UN driftnet resolutions, and for an agreement governing highly migratory and straddling stocks.[107]

Other concerns surrounded the United State's pivotal role in achieving the resolutions and involved claims of "coercive diplomacy" by the U.S. to achieve its goal of termination of all high seas pelagic driftnet fishing operations.[108] Indeed the U.S. played a central role in ensuring the compliance of the DWFNs to the resolution. Employing the threat of U.S. trade sanctions,[109] Congress enacted the *High Seas Driftnet Fisheries Enforcement Act* in 1992.[110] As suggested, this Act placed import bans on fish and fish products of nations whose nationals were identified conducting large scale driftnet fishing operations on the high seas. Acting as further disincentive, the Act also removed all port privileges and mandated import prohibitions on sport-fishing equipment. The significance of this legislation is that for the first time the imposition of trade sanctions against nations that violate the driftnet prohibition are mandatory. Moreover, after 6 months of certification under this Act the Secretary of

105 Burke et al. (1994) *op. cit.* n47 at 129.

106 The accuracy of the extent of impact caused by long driftnets has been called into question however. Burke et al. (1994) is highly critical of the Resolutions due to a disregard shown towards scientific rigour and concludes that as a consequence an the decision to ban high seas drift net fishing was unsound. *Ibid.*

107 For discussion see Chapter 5, section 5.2 International Fisheries and Conservation Actions.

108 Burke et al. (1994) *op. cit.* n47 at 128.

109 "U.S. to Enforce Moratorium Driftnet Fishing" (1993) 4 *U.S. Department of State Dispatch* 158.

110 *High Seas Driftnet Fisheries Enforcement Act* of 1992, Pub. L. No. 102-582, 106 Stat. 4900.

Commerce is required to also certify non-compliant nations under the Pelly Amendment.

This threat of sanctions proved, as expected, sufficient motivation to induce the cessation of the operations of all three DWFN fleets. The Japanese cabinet, led by the Ministries of Foreign Affairs and International Trade and Industry, despite protestation from the fishers, quickly ordered the cessation of high seas driftnetting operations.[111] In 1992 Japan provided to the UN a plan detailing its intended phase-out.[112] Unsurprisingly Japan's rapid cooperation, and U.S. exertion of pressure on South Korea and Taiwan, led quickly to mirror action.

## Concluding Comments

As with most other species and gear specific approaches to bycatch issues, driftnet fishing moved first through a phase of domestic, followed by international mobilisation. Unlike tuna purse-seining and shrimp trawling however, there was little conflict and a high level of cooperation amongst domestic actors. This approach had more to do with a commonality in the outcomes sought, than any maturation of the bycatch issue area or stakeholder relations themselves.

Cooperation was first witnessed in the joint efforts of the *Kokechik* case, the primary aim of which had been to rid the U.S. EEZ of driftnet fishers. This successful outcome fulfilled the aims of domestic NGOs and fishers. NGOs' goal was the cessation of what was viewed as an indiscriminant fishing method, resulting in a range of environmental problems, not the least of which was the bycatch of endangered and other charismatic marine wildlife.

Secondly, fishers wished for the prohibition of Japanese driftnetting in U.S. waters so as to remove those foreign vessels in competition with domestic salmon fishers. In the international arena the removal of all high seas driftnetters expanded this issue to include squid fishers who were illegally taking salmon. Thus an analysis of the U.S.'s treatment of the driftnet bycatch issue in the North Pacific is complicated by the side issue of salmon interception by foreign fleets.

With two of their main constituent groups supporting a particular action, federal and state politicians had little choice but to pursue their request.

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111 Walsh suggests that rather than the threat of sanctions it was the economic involvement of Japanese driftnetting firms in U.S. fisheries operations that explains the quick response by Japan to the resolution. Walsh (1998) *op. cit.* n42.

112 With high seas driftnet fishing operations terminated, the INPFC was no longer needed and it ceased functioning on 21 February 1993.

> In North America the driftnetting controversy has become a major political and diplomatic problem, both internally and externally. Normally warring factions such as the environmentalists, commercial fishermen, fish processors, native Indians, and sport fishermen have been able to unite in an anti-driftnet coalition to bring pressure on politicians and officials at both the federal and the state levels of government. ... Internally the political problem is how the federal government can satisfy the strong demands of these combined pressure groups through actions at the international level. Externally, the problem is how the victim states can deal effectively with the culprit states within the limits of political, diplomatic, legal and ethical acceptability.[113]

The 1987 the *Driftnet Impact, Monitoring, Assessment and Control Act* was intended to encourage cooperation between the U.S. and high seas driftnetting DWFNs in acquiring useful data. It required that the U.S. enter into negotiations aimed at ensuring effective monitoring and enforcement of laws, a process which was backed up by the invocation of the Pelly Amendment if no such agreements were forthcoming within 18 months. Indeed it appears that were these sanction provisions not available, then the agreements would not have eventuated. Only one nation was compliant by the 18 month deadline, and the remaining two formed hasty agreements with the U.S. after the commencement of the certification process.

Domestically, opposition to driftnet fishing continued to mount: politicians, fishers and NGOs from the northwest states called for a complete prohibition of the practice on the high seas. And with the abdication by the federal government of any real responsibility, Congress members from Alaska, Oregon and Washington assumed the role. Although achieving their desired result, this led to a lack of any real consideration of the range of U.S. fishery interests likely to be impacted upon by the policy stance assumed. Rather than a comprehensive position on high seas fishing and conservation, a contradictory approach to the issue of driftnet fishing was adopted.

A compromise position at the 1989 UNGA led to an agreement for the monitoring of the situation with respect to bycatch in the North Pacific. Preempting the 1991 follow-up to the original resolution, the U.S. enacted the 1990 Driftnet Act Amendments. These incorporated and expanded the provisions of the *Driftnet Impact Monitoring, Assessment and Control Act*, and included a recommendation for a global moratorium on the use of large scale driftnetting gear. The adoption of a policy position prior to the acquisition of data on the matter, can be seen either to reflect the paucity of attention afforded science in resolving the driftnet issue, or as an appropriate application of the precautionary principle.

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113 Johnston (1990) *op. cit.* n46 at 13-14

Regardless of the view of the role of science taken, that the issue was strongly driven by politics, is undeniable. In this regard, the political character of the issue is well evidenced from an examination of the U.S. stance on the use of high seas resources: the U.S. policy position with respect to driftnets differed noticeably from that it assumed in the contentious LOSC negotiations. In the LOSC negotiations the U.S. opposed a regime governing the deep seabed due to the common law freedom to engage in the exploitation of a common property resource. Thus suggesting that its concerted effort to eradicate the practice of high seas driftnetting was based upon politics rather than a principled, determined stance. Further adding to claims of a politically motivated agenda, the U.S. failed to push for limits to nearshore driftnet fishing.

## 4.4 The Endangered Species Act — TEDs & Domestic Turtle Protection

### The Voluntary TED Program

To recall, as the development of the TED progressed NMFS officials began musing about the potential of a voluntary adoption scheme. Indeed early analysis of the TED suggested that the use of such a device would pay for itself within two years of use, through lowered fuel and other costs and increased shrimp catch.[114] By the end of 1981 NMFS had made an internal decision not to require the use of TEDs under ESA authority, but to instead rely on convincing shrimpers of the apparent benefits offered by such devices, to achieve voluntary compliance.

> We thought because of the scientific studies we had done that the industry would embrace this device, because all of our studies showed that it had a very insignificant loss of shrimp, was extremely effective in excluding the turtles. ... we thought that the industry would just buy this device as a means for saving the fuel and making it easier to handle their catch but it didn't work out that way. Our industry, excepting a very few areas, did not embrace the TEDs.[115]

This decision to pursue voluntary compliance began to emerge in 1982 with NMFS's indications of its responsibility to develop and maintain an economically viable shrimp industry. It presented the additional argument to fishers that only the widespread adoption of TEDs could avoid disastrously expensive legal confrontations that would result from environmentalists determination to see the ESA enforced.[116] This fear came from provision of the ESA that allowed for citizen suits. Thus the Act could be enforced not only by government but also by the community.[117]

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114 Study commissioned for the Center for Environmental Education and Monitor International.

115 Per. comm. Jay Johnston, Assistant General Counsel, National Oceanic and Atmospheric Administration, Department of Commerce, Washington DC, 16 April 1999.

116 Fee, R., "TED Confusion" (1987) 69 *National Fisherman* 20.

117 ESA, §1540(g), [s11(g)]. There is a requirement that 60 days notice be given to the Secretary of the appropriate agency and the alleged violator before a suite can be lodged.

The potential of turtle exclusion devices to mitigate turtle bycatch, together with the anti-regulatory mood of the Reagan administration, also persuaded NGOs to pursue a voluntary approach to TED implementation. Thus, in 1982, the Centre for Environmental Education began a partnership arrangement with NMFS. The CEE also agreed to NMFS's suggestion to collaborate with industry organisations in promoting TEDs, and to this end the TED Voluntary Use Committee (a group of environmental and industry representatives) was formed to coordinate activities. The NGO's acquiescence to collaborate with the shrimping industry stemmed largely from their realisation that they would otherwise be unable to meet with the thousands of shrimpers located between North Carolina and Texas. Together NMFS, NGOs, scientists and industry bodies convened a working group to promote the voluntary use of TEDs. This group met regularly over the next several years. They sought to promote broader awareness of TEDs and to secure funding for further trials and training in their use.

By the end of 1983 the Voluntary Use Committee had agreed to the goal of 50 percent TED coverage by the end of 1986. Furthermore it aimed that within three years a majority of southeastern US shrimpers would be using TEDs, with 100% coverage in areas of critical importance to sea turtles, in particular the Kemp's ridley. As voluntary TED adoption failed to gain support though, NGOs begun pressing for the mandatory adoption of TEDs.

Meanwhile, throughout 1982 and 1983 NMFS continued testing its TED in the smaller trawls of the northern and western Gulf of Mexico. In tests on commercial trawlers TEDs greatly reduced sea turtle captures, maintain shrimp catch and reduced finfish bycatch. Field trials were concluded in 1984, by which time NMFS had spent somewhere between $2 and $3.4 million on the TED research.[118] Testing all but ceased in 1984 when on the recommendation of Representative John Breaux of Louisiana — responding to the hostile view of his shrimp trawl constituents to TEDs — the House Appropriations Committee cut funds to TED research.[119]

Notwithstanding this undermining of NMFS voluntary adoption program, in particular through a reduced capacity to educate and train shrimpers on the importance and use of TEDs, the NMFS remained reticent to promulgate compulsory TED regulations. Other players including the FWS began to push for mandatory TED requirements. The

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118 The figure depends on the source see Margavio, A., Laska, S., Mason, J. and Forsyth, C., "Captives of Conflict: The TEDs Case" (1993) 6 *Society and Natural Resources* 273; and Conner, D., "Turtles, Trawlers, and TEDs: What Happens when the Endangered Species Act Conflicts with Fishermen's Interests" (1987) 7 *Water Log* 3.

119 Per. comm. Eugene Buck, *op. cit.* n10.

FWS had been protecting Mexican nesting grounds of the Kemp's ridley since 1978 and was adamant not to allow the gains offered by this protection be eroded by high levels of domestic bycatch. NMFS responded to the FWS's attempts to encourage greater action, by reaffirming its position that such regulations would be too burdensome for shrimpers. It argued that industry was suffering economic difficulties already, and urged the FWS and NGOs to have patience in pursuing the industry's the adoption of TEDs.

On skeleton funding NMFS continued refining the devices. In November 1985 NMFS reported that it had perfected a lightweight collapsible TED that all but eliminated sea turtle bycatch, maintained shrimp harvest and reduced finfish take by 50-70 percent. Notwithstanding these impressive results industry organisations still refused to commit their members to the use of the device. By this stage, less than one percent of shrimpers in the fishery were using TEDs. The original device's poor reputation had retarded the adoption of subsequent models - TEDs were thus tainted.[120]

The Sea Turtle Recovery Plan was finalised and approved by NMFS in 1985. The U.S. Sea Turtle Recovery Team, composed of leading turtle scientists. They advocated enhanced protection for nesting beaches, and a range of measures to reduce sea turtle mortality on sea and land. These included the finding that the time for encouraging voluntary use of TED had passed, and that reversing the decline of sea turtle populations required definitive action in all waters from North Carolina to Texas.[121]

By the mid 1980s the Kemp's ridley had reached dangerously low numbers. Only 200 nests were found at the species principle nesting beach, and the total number of nests laid had dropped below 800. Concerned by these figures and the ongoing refusal of both NMFS to require and shrimpers to voluntarily use TEDs, in early 1986 a coalition of NGOs and requested that the Gulf of Mexico Fisheries Management Council consider requiring the use of TEDs under the Magnuson FCMA. A similar request was made under the ESA.

The FWS also remained concerned. The regional direction appealed to the Gulf of Mexico FMC to create compulsory TED requirements. A response emerged by the July when the Council recommended that shrimp vessels be required to use TEDs in certain locations and at certain times of the year. The Council was however accused of attempting to avoid the issue and its responsibilities under the FCMA, by handing the substantive management of the matter over to the NMFS.

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120 Conner (1987) *op. cit.* n118.

121 Protected Species Program, *Annual Report FY 85, Trawling Efficiency Device Project* (Southeast Fisheries Center, NMFS, 1985).

It was around this time that it became clear to the NMFS that voluntary TED adoption was not going to occur.

Some NMFS employees have blamed the lack of acceptance of TEDs upon the Sea Grant Extension Service (SGES). Though the SGES is not a federal agency, in the early 1970s in a major administrative reshuffle the role for liaising between fishers and the NMFS who were responsible for the policy development and regulation. They were interpreters of policy and science for fishers.[122] This division of labor worked relatively well until the emergence of the TEDs dispute. It was at this time that the SGES's position of nonpartisanship became an issue. NMFS officials had hoped that marine agents would be helpful advocates of TEDs. The SGES viewed this as a violation of their professional mandate, and as an untenable position in opposition to the communities where they lived.[123] NMFS however saw the agents' attempts to remain neutral and their refusal to advocate the department's position on TEDs as disruptive to the goal of the parent organisation, the Department of Commerce.[124] To be sure the SGES's position, no matter how valid, can not have but impaired the adoption of TEDs by shrimpers. As a consequence, in January 1986 NMFS attempted to address the problems internal conflicts between itself and the implementing agency the SGES, which had by this stage reached high proportions.[125] NOAA initiated a series of conflict resolution workshops between NMFS and the Sea Grant Extension Service, which ultimately failed.[126]

## Industry Opposition to TEDs & the Role of Science

Among fishers there had emerged considerable unexpected opposition to the use of the new device. This came in particular from Gulf of Mexico fishers,[127] and NMFS was largely unsuccessful in its efforts to encourage voluntary adoption.

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122 Per. comm. Eugene Buck *op. cit.* n10.

123 Margavio et al. (1993) *op. cit.* n118.

124 The SGES was linked to the Department of Commerce as the Agency who administered the Sea Grant scheme under which the positions of these agents were coordinated. Per. comm. Rod Moore *op. cit.* n37.

125 With the 1976 passage of the FCMA, the NMFS was allocated the regulatory role and the Sea Grant Extension Service adopted an educational and advisory mission. Notwithstanding some tension between the two agencies, this division of labor work relatively well prior to the emergence of unpopular regulations.

126 In part this failure was due to the emergence of another issue — that of the NMFS willingness to listen to new innovation as proposed by fishers. According to Rod Moore, after the eventual passage of the regulations, numerous fishers commenced on projects to modify and redevelop the initial device. NMFS however, appeared unwilling to listen. The SGES constantly faced fishers coming to them with new adaptations of TEDs but with the complaint hat the NMFS refused to consider these. In their liaison role the SGES would then try to proposed these same ideas to NMFS and receive the same lack of attention. Per. comm. Rod Moore *op. cit.* n37.

127 A disparity witnessed between Gulf shrimpers and Atlantic coast shrimpers reflects this perceived difference in their impact on sea turtle populations Gulf shrimpers maintained that they did not capture

*continued over page*

Compounding the extant state of the fishery was the complexity of the device itself. Innovations are adopted rapidly and voluntarily when they are affordable and economically advantageous and the necessary changes do not require an alteration in existing perceptions or beliefs.[128] In the case of TEDs, fishers believed that none of these conditions had been met, though NMFS firmly felt that all such conditions had been obtained. The main reason for the failure of NMFS's voluntary adoption program was that many shrimpers believed that a significant impact would be imposed upon them due primarily to reduced catches. Moreover, they believed that the devices were unnecessary. They did not consider shrimping to be a major threat to sea turtles.[129]

> Federally or court-managed adoption of Turtle Excluder Devices (TEDs) by the American shrimp trawling fleet will not save any species of sea turtle from extinction. Mandatory TED utilization, however, will almost certainly cause economic hardship, dislocation and ruin to an important contributor to American culture and the economy.[130]

The stark difference in shrimper perception and NMFS data on sea turtle bycatch rates is largely a result of the effect being cumulative. NMFS observers have documented a rate of one turtle capture for every 31 hours of towing off eastern Florida, with 20 to 40 percent of these being dead when hauled aboard. Thus although individual fishers may rarely capture turtles, when extrapolated to several million hours of trawling the total annual catch mortality of sea turtles is unacceptably high. In terms of such data it is worth recalling that the ESA does not require that management decision be based upon perfect data, rather that the best used be made of available date.[131]

Resistance to TEDs also stemmed from a belief that they would add to the litany of woes that fishers already faced such as cheap imports, farm-bred shrimp, rising fuel and insurance costs, falling prices and a crowded fishery.[132] On the other hand the benefits believed by NMFS to be offered by TEDs, such as fuel reduction, were

sea turtles, and in fact their take rate was significantly less than their Atlantic counterparts, capturing one turtle per 322 hours fished as compared with one ever 20 hours (Henwood, T. and Stuntz, W., "Analysis of Sea Turtle Captures and Mortalities During Commercial Shrimp Trawling" (1987) 85 *Fishery Bulletin* 813).

128 Moberg, M. and Dyer, C., "Conservation and Forced Innovation: Responses to Turtle Excluder Devices among Gulf of Mexico Shrimpers" (1994) 53 *Human Organisation* 160.

129 Tucker, A., Robins, J. and McPhee, D., "Adopting Turtle Exclusion Devices in Australia and the United States: What are the Differences in Technology Transfer, Promotion, and Acceptance?" (1997) 25 *Coastal Management* 405

130 Mialjevich, T., "Sea Turtles and TEDs: A Misdirected and Counterproductive Effort to Save Turtles" (1987) 7 *Water Log* 28 at 28.

131 Conner (1987) *op. cit.* n118.

132 Margavio et al. (1993) *op. cit.* n118. According to Dyer and Moberg (1992) the fishers' hostility is compounded by their lack of opportunity for occupational change. Substantial investments and their extensive experience in shrimping combined with a lack of formal education makes it extremely difficult for most fishers to change occupation. Dyer, C. and Moberg, M., "The 'Moral Economy' of Resistance" (1992) 5 *Maritime Anthropological Studies* 18.

considered by fishers to be slight. And in some cases, none of the anticipated benefits flowed.[133] Cemented into fishers' psyche was the following view.

> It is certain ... that given increasing costs, decreasing or stable prices, imports, increasing effort, increasing numbers of boats, the entrance of new fishermen into the fishery, and the closure of the Mexican waters, TEDs will not benefit anyone in the shrimping industry — fishermen, processors, or dealers.[134]

Once the industry opinion was formed, it proved near impossible to alter. After poor trials with early devices, and given the prevalent economic crisis, regardless of their utility for turtle exclusion, TEDs were never going to have been looked upon favourably by fishers.[135] Indeed given the dire situation many shrimpers found themselves in, the introduction of TEDs became the proverbial last straw. In an industry already so besieged, these new devices were simply another perceived burden. The difference was that this burden could be protested against and acted upon, and thus fishers were provided with the belief that they were acting to remedy their situation. The TEDs issue was an easy banner to wave.

The shrimp fishermen's objections include that:

- TEDs cause an unacceptable reduction in shrimp catch;
- TEDs are hazardous to deckhands;
- the regulations requiring TEDs is based on inadequate data;
- there was insufficient industry representation at negotiations;
- other factors are more significant in turtle population decline than is shrimp bycatch;
- TEDs are futile if other nations' fishers are not also required to use them;
- TEDs result in increased insurance costs and consumption of fuel; and
- the gear has not been adequately tested in some areas.[136]

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133 For example, the expected cost reductions from reduced labor were not realised. It was thought that reduced bycatch would mean quicker catch sorting, fewer working hours and thus a reduced cost in wages. However, because the common method of payment was based upon a percentage of the catch value rather than an hourly wage the captains income did not increase *per se*.

134 Durrenberger, P., "Policy, Power and Science: The Implementation of the Turtle Excluder Device Regulations in the U.S. Gulf of Mexico Shrimp Fishery" (1990) 3 *Maritime Anthropological Studies* 69 at 77.

135 With a start-up cost estimated at between 400 and 600 dollars and two year life expectancy of the device, the NMFS estimates an additional cost of $400 to $1500 for towing a TED. This cost does not however include potential shrimp losses. It is hoped that eventually the cost in shrimp will be offset by increases in towing time possible because of the exclusion of other unwanted catch from the nets. This however was little comfort to some shrimpers. Operating on a 20 percent or lower profit margin, even a temporary reduction in total catch would have been enough to drive some shrimpers out of the fishery (Conner (1987) *op. cit.* n118.).

136 *Ibid.*

Some of these complaints were later determined to be unfounded. Increased injury to deckhands due to the hazardous nature of TEDs was found to be an unwarranted fear. In more than 15,000 hours of testing on commercial trawlers and many more of actual use, only one TED related injury was reported and that was associated with improper use of gear other than the TED. thus related complaints of insurance hikes due to increased risk were similarly unfounded.

Of these points, the major concern of shrimpers was the validity of the science upon which the regulations were based. Science is used to validate a policy position and legitimise regulatory actions and decisions. Thus uncertainty is concealed. Doubts surrounding data are exaggerated when particular scientists who are perceived as partisan are involved.

Simultaneous tests conducted under the auspice of University of Georgia Sea Grant in the Cape Canaveral Channel off Florida in the August 1986 revealed that all models were effective in excluding the loggerhead turtles found in the region. Results were as follows:

| device | % reduction of shrimp catch | acceptable level of turtle bycatch | % reduction of other bycatch |
|---|---|---|---|
| NMFS TED | 7.7 | yes | 44 |
| Georgia jumper | increased 25.5 | yes | 24 |
| Cameron TED | 1 | yes | 33.5 |
| Matagorda TED | 7 | yes | 44.5 |

Shrimpers were skeptical of these tests in particular suggestions of increased shrimp catch. They considered the season inappropriate for the gathering of reliable data because the catch was too small to be reliable. Other criticisms stem from the location and claims that the test ought not be extrapolated to Gulf fisheries. Indeed scientists have not been able to replicate these results. Separate tests have found between 23 percent loss and four percent gain in shrimp harvest with the various TEDs and fishers themselves who have tested the gear claim to achieve only losses of between 15 and 28 percent.[137] From both these and anecdotal evidence it appeared fair to conclude that TEDs will — at least initially — result in a reduction in the target catch also. The degree of loss depends upon a variety of factors including the weather conditions, the type of TED used, the skill of the shrimper towing the net, the nature of the bottom, and perhaps differences in water temperature, depth and salinity. With practice, familiarity and skills with the devices also increases, and after time it is possible to attain a catch rate approaching what had been the norm without the device. Moreover TEDs are continually being refined.

137 Reported in *ibid.*

Fishers have complained that the TEDs have not been adequately tested in inshore regions and in the Gulf itself. This is, according to NMFS not for their lack of trying. Opportunity to test TEDs in inshore waters was offered but interest was minimal. In 1985 as part of the NMFS technology transfer program the Gulf and South Atlantic Fisheries Development Foundation offered $30,000 to each Gulf state to conduct TED tests in state waters. Only Texas accepted at the time, although by 1987 all Gulf states were carrying out similar tests facilitated through the same funding source. Indeed, the lack of reliable inshore data led to NMFS's modification of the rule so as to eliminate TED requirements so long as tow time restrictions are observed.

Counter claims that shrimpers are innovation shy were also unfounded, as can be seen through their record of gear experimentalism. Within living memory shrimpers had:

- adopted trawl nets and motorised vessels,
- switched from gasoline to diesel engines,
- expanded into the Gulf with larger vessels,
- experimented with various net configurations and riggings and largely replaced lugger-rigged boats pulling single nets with double-rigged boats pulling two nets,
- developed cannonball shooters to exclude jellyfish catch, and
- adopted a wide spectrum of electronic communication and navigation equipment.[138]

Regardless of their reasons for and the validity of their objections to TEDs, the strength of opposition should have been realised in 1983 when two hundred TEDs built by a government contractor and available largely free to shrimpers in South Carolina, Georgia, and Florida were met with a resounding silence. NMFS had also initiated a program to formally train and encourage shrimpers to use TEDs in their day-to-day operations. Fishers however, remained highly skeptical and few responded the agency's efforts. Even in the state of Georgia where $80,000 in fuel rebates were offered to shrimpers who agreed to use TEDs, little interest was attracted.

One environmentalist contended that the shrimpers' belief that they had a problem with TEDs was due to persistent propaganda by leading industry representative bodies who found it to be to their advantage to create an environment of enormous perceived risk, and that shrimpers were sadly manipulated.[139]

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138 White, D., "Sea Turtles and Resistance to TEDs Among Shrimp Fishermen of the U.S. Gulf Coast" (1989) 2 *Maritime Anthropological Studies* 69.

139 Reported in Margavio et al. (1993) *op. cit.* n118.

## Mandatory TED Requirements

On the 20 August 1986 NMFS held a briefing in Washington for shrimp and NGO representatives to unveil and explain proposed mandatory TED regulations. Rather than being left to a NMFS employee, because of their contentious nature, the presentation of the regulations was by the NOAA Administrator Anthony Calio. The proposed regulations compelled the use of TEDs by shrimpers, and then exempted some areas included in which were several regions where sea turtles were drowned regularly. These regulations were to apply only to the three Gulf states of Louisiana, Florida and Texas and were not intended to become fully effective until 1990. The route was not however to be a smooth one.

> As a result of political machinations, the federal government spent millions of dollars holding hearings at which the same people testified time and again making the same points, chasing down false rumours ... and devoting extra effort to enforcing the law of the land, a law that had been repeatedly upheld by the courts and Congress itself.[140]

Perhaps unsurprisingly the draft regulations received criticism from all participants. Two days after their release CEE served notice of an impending law suit on the Secretary of Commerce. The basis of this was that NMFS, by failing to mandate the use of best available technology to prevent the take of endangered and threatened sea turtles, was in breech of the FSA. As provided for under the ESA if the agency took no steps within 60 days to remedy the situation the CEE could — and would — sue. Its statement of claim suggested such a suit would call for a closure of all shrimp fisheries bar those beyond the turtle's range, until TEDs were installed on all shrimp boats.

Dissatisfied with the proposed rule and alarmed over the prospect of a fishing closure as threatened by NGOs, at the end of August 1986 the shrimping industry requested mediation. At this point the NOAA administrator suggested a novel but not untried alternative: negotiated rule making.[141]

> Several members of the environmental community at that time pressed to take us to court and we put that off by agreeing that we would convene a negotiated rule making. This is an unusual process for the government, where basically we would get the two sides that had an interest in this issue together, supply them with all the scientific information the

140 Weber, P., Crouse, D., Irwin. R. and Iudicello, S., *Delay and Denial: a Political History of Sea Turtles and Shrimp Fishing* (Center for Marine Conservation, Washington DC, 1995).

141 Ordinarily agencies use notice and comment rulemaking. Negotiated rule-making refers to face to face negotiation which allows parties to formulate their own mutually agreeable rule. It is often used in potentially explosive situations, instigated so as to avoid time-consuming and costly litigation between parties and involving the agency. Although previously used by the EPA with some success, the NMFS had never previously engaged this process. Critics warn of deals behind closed doors, but the benefits of a relatively uneventful review and public consultation period are believed often to outweigh concerns.

> government had, supply them with the government's recommendations for where a solution might lie, but then ask them to develop the solution.[142]

The result is often an endpoint rule with greater legitimacy than had the agency formulated a draft and pursued the normal consultation and rulemaking process.

A professional mediator from Alaska was chosen for the task. Environmentalists were represented by several of the leading NGOs: the CEE, the Environment Defenders Fund, Greenpeace and Monitor all sent spokespersons. The only affected shrimping state that lacked industry representation at these negotiations was North Carolina.[143] The issue of finfish bycatch was initially floated by NGOs keen to include this in negotiations, however both NMFS and the industry were adamant that all negotiations would cease should finfish issues be raised again in this forum.

Notwithstanding their beginning with vastly disparate positions, the parties eventually agreed on two principles — firstly that endangered sea turtles should be protected by whatever means available, and secondly that this should be done as far as practicable without adversely affecting the shrimping industry. In other terms the goals were 97% exclusion of turtles with 97% retention of target (shrimp) catch.

Shrimpers emphasised the need for concomitant efforts to save sea turtles, such as hatcheries. They also raised the issues of foreign imports of shrimp produced by methods harmful to turtles and the need to limit these imports from U.S. trade partners, in particular Mexico. After 14 days of mediated negotiation, on 12 December 1986 an agreement was announced and signed. Both sides felt the agreement had shortcomings, but at the time both parties seemed willing to live with the concessions they had in good faith made. Industry representatives agreed upon a three year phase in of TEDs in specified areas of the South Atlantic and Gulf of Mexico. Assisting in gaining this substantial concession was the IUCN's identification of the Kemp's ridley as one of the 12 most endangered animals in the world. And in turn, environmentalists conceded to a relaxed enforcement policy whereunder so long as shrimp vessels were installed with exclusion devices their operators would not be prosecuted for capturing endangered or threatened sea turtles. This agreement was to be formulated into regulations and published.[144] The NMFS also prepared a draft supplement to the original 1978 EIS and issued it in February 1987.

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142 Per. comm. Jay Johnson *op. cit.* n115.

143 The shrimpers were represented by the Texas Shrimp Association, the Southeastern Fisheries Association, the Louisiana Shrimpers Association, the Concerned Shrimpers of Louisiana, the South Carolina Shrimpers Association, and the Bryan County (Georgia) Fisheries Co-op.

144 52 Fed. Reg. 6179 (1987).

At the very conclusion of negotiations, but prior to signing, one member participant, Tee John Mialjevich "articulate shrimper from Delcambre" and representative of the Concerned Shrimpers of America,[145] was called away due to the sudden death of his mother. What followed has since entered the realm of folklore and is told as follows:

> TJ goes home and every one else signs. Word of the agreement leaks out and the more radical of the fishermen just went nuts. These guys then caught up with TJ before he went back to the meeting. Whether honestly trying to carry out of the wishes of the folk he went to represent, or if he thought that was a great way to be a leader and the others could take the blame is unknown. But anyhow TJ refused to sign. And fishers began to rally around this group.[146]

Subsequent to the conclusion of negotiations Mialjevich initiated a two pronged campaign of resistance. His primary strategy was to cultivate grass roots mobilisation. He has in his efforts however been accused of propagating misinformation and spreading fear throughout the industry, with claims that shrimpers didn't catch sea turtles, that the animals were not endangered anyhow, and that TEDs would cause economic ruin to the industry. Secondly Mialjevich sought to utilise more formalised legal and political means of resistance aligning his association whenever possible with dissident states.

Mialjevich's opposition was based upon the basic premise that TEDs don't work. He contended firstly that the amount of debris caught in TEDs prevented the ejection of turtles and thus that TEDs were ineffective in saving turtles. Secondly, because shrimpers operate under a very small profit margin, he maintained that shrimp losses due to TEDs would make the industry unviable. As the closure of shrimping was not the goal of any involved such an outcome would have rendered the TED an unequivocable failure.[147]

This is not to say that Mialjevich offered no constructive proposals to assist sea turtles. Suggestions included an expansion of hatchery and headstarting programs and industry funding to assist such efforts.[148] While such initiative is laudable, these schemes were designed to function concomitant with, not as alternatives to, preventative measures. Thus such programs are criticised however as being halfway technology and stop gap measures and hence inconsistent with the goals of the ESA.[149]

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145 Formerly the Concerned Shrimpers of Louisiana.

146 Per. comm. confidential source.

147 Mialjevich (1987) *op. cit.* n130.

148 *Ibid.*

149 Frazer, N., "Sea Turtle Conservation and Halfway Technology" (1992) 6 *Conservation Biology* 179.

Similarly in defense of the ESA's substantial requirements for impact mitigation, it has been remarked that

> while undoubtedly placing a burden on shrimp fishermen, [the rule] is an inevitable consequence of policy choices that the American people, through their elected representatives, made when the Endangered Species Act was enacted in 1973.[150]

Some have suggested that this was where NMFS's fatal error occurred.

> What they [NMFS] should have done was to sit down with fishers and the marine agents and agreeing to redevelop TEDs , recalling that one thing the fishermen like is a challenge. Saying we aren't going to pay any attention to Tee John with his fuss and you're all going to have to have TEDs with x, y and z but you can do anything else you like to them.[151]

Meanwhile there was unrest within the environmental community whereby they threatened to sue if the NMFS did not carry out the actions agreed to at the negotiations, and thus the process of negotiated rule making began to skew from the textbook scenario. Indeed Conner warns that if the negotiators are not truly representative and do not have the power to bind their constituents the process may go awry. Both the representatives and the agreements may be repudiated if the outcome is perceived as unfairly unfavourable by one party. This is what happened in 1987 with the shrimp industry's response to the mandatory TED rule. Notwithstanding that the final rule evolved out of a compromise between a panel of negotiators representing both shrimping and conservation interests, a large number of shrimp fishers have expressed a strong objection to the outcome of the negotiations and the rule that resulted.

The campaign of public misinformation was escalated. For example several Louisiana state officials have claimed that a loss of $50 million in shrimp income would result from the implementation of the regulations. This figure was reached by using the highest tested shrimp loss for TEDs and extrapolating it to all shrimpers in Louisiana, instead of just those who would have actually been required to use the device by 1989 (that is 26,000 rather than 2,000 shrimpers).[152]

In this way shrimpers were provoked to actively oppose the regulations at public hearings in 16 locations across the region in March 1987. Led by Mialjevich, shrimpers turned out en masse. In Thibodaux, Louisiana the venue was filled to its 5,600 capacity and state police were present to control both the traffic and the participants. So strong were their feelings against the TED that large numbers of inshore shrimpers

150 Conner (1987) *op. cit.* n118 at 3.

151 Per. comm. Rod Moore *op. cit.* n37.

152 Weber, M., "Turtles and the Tellico Dam Syndrome" (1987) 7 *Water Log* 32.

threatened to ignore the law and vowed that they would forfeit their vessels and go to jail rather than use TEDs. Some flew to Washington DC to give testimony at ESA reauthorisation hearings. Letter writing campaigns were organised and Southeastern Congressmen reported that the mail they received was of the ratio ten to one against the TED rule. According to Conner "government officials were heard to comment that they had never seen more people turn out on any fishery issue — ever."[153] Indeed prior to the close of the review period in the May 1987 NMFS received thousands of written and oral comments on the rule. Predictably most were from fishers or environmentalists, although they came also from U.S. Congressmen, Governors, and Attorneys-General of several southern states.

The various states reacted vastly differently to the proposed regulations, partisan lines seeming to have little to do with the issue. Acclaim for it appeared however to be in the minority, with Republican Congressman Arthur Ravenel of South Carolina one of the few members to outspokenly lend the TED law his support.

In Mississippi the Governor and Attorney-General both condemned the mandatory TED regulation and a Mississippi state Senator announced his intention to introduce a bill which made the use of TEDs in state waters illegal. Similarly in Louisiana, the Attorney-General, the Governor, and federal Congressmen all vigorously opposed the device's mandatory introduction — the Governor remarking that "perhaps some species were just meant to disappear."[154] Congressmen attempted to delay and relax TED requirements. In March 1987, Merchant Marine and Fisheries Committee held TED hearings as it considered the reauthorisation of the ESA. The Committee twice rejected an ESA amendment to delay the TED requirements for two years. On 1 April 1987 Bob Livingston introduced H.R.1898 to defer implementation of the regulation until 15 July 1988. Offered as a supplemental appropriations bill the final version allowed a delay only until 30 September 1987. Meanwhile Senator John Breaux attempted to provide a caveat whereby TEDs shown not to be 97% effective in shrimp retention would not be required to be used and alternate conservation techniques would be sought.[155] This however was unsuccessful.

As with most U.S. legislation, the FSA provides for periodic review by Congress in a process called reauthorisation. Congressional authorisation for the ESA expired in

153 Conner (1987) *op. cit.* n118 at 14.

154 Reported in *ibid* at 15.

155 Senator Breaux has achieved a reputation as "moderating force". His constituent is shrimp fishermen, however he has tried to look at the science behind the fisheries and has tried to walk a fairly narrow line of seeing the shrimpers aren't negatively impacted but accepting that when the science is there that something has to be done. Per. comm. Dr Deborah Crouse, Biologist, Division of Endangered Species, Fish and Wildlife Service, Washington DC, 20 April 1999.

September 1985. A combination of factors such as the controversy over sea otters, grizzly bears, red wolves, and later sea turtles, slowed Congress's process of reauthorisation for the Act. Indeed in the financial years from 1986 through 1988, when reauthorisation finally occurred, Congress continued to annually extend the Act's provision with interim funding bills. Although symbolically significant, there was no practical difference between this and reauthorisation.

> Unless a law has built-in "sunset" provisions (i.e. automatic expiration), reauthorisation is only a formal review. So long as Congress continues to appropriate funds for implementation and enforcement, the law is not in abeyance. In fact, even if Congress failed totally to provide interim funds, the ESA, as we have seen, is enforceable by private parties because of the citizen suit provisions.[156]

Due to this intense grassroots pressure two of the industry representatives who had signed the original agreements recanted and withdrew their support for it. These belonged to the Shrimp Associations of Louisiana and of Texas. It has been suggested that compounding the pressure to resist the TED regulations was a lack of encouragement for TEDs from the SGES — the primary liaison agents. Throughout this period the SGES maintained the same non-advocacy position it had during the voluntary TEDs period. Some NMFS officials suggest that this went further and that some SGES employees publicly made disparaging remarks about the program.[157]

Although the original participants of the negotiated rule were no longer formally involved the NMFS sought their opinion on changes to the final rule. Published on June 29 1987 the final rule reflects a high level of compromise.[158] Changes from the original negotiated rule include a delayed commencement date till January 1 1988 and October 1 1987 for the Canaveral channel. Differences in where TEDs would be required, meant that they covered a greater area than the draft rule had proposed and extended over longer seasons. Regulations apply out to 15nm from shore in the Gulf for the first year and after that out the full width of the EEZ. They were however exempt from inshore waters with the proviso that tow times be restricted to 90 minutes.[159] Tow times were measured from deployment to retrieval, hence the typical bottom time has been estimated to be roughly 60-75 minutes which would cause negligible turtle mortality due to their 90 minute submersion capabilities. Finally vessels under 25 feet were exempted from requirements to use TEDs in offshore water provided that the tow time

156 Conner (1987) *op. cit.* n118 at 9.

157 Margavio et al. (1993) *op. cit.* n118.

158 52 Fed. Reg. 24,244-24,262, (1987).

159 Inshore waters generally refers to bays covered by state jurisdiction. The definitions of inshore and offshore have been clarified under 52 Fed. Reg. 37,152-37,154 (1987).

limit was observed. The details required approximately 7000 out of the 20000 operating shrimp trawlers to use TEDs.

By 1987 when the first stage of the regulations became active, several models of TEDs had been approved by NMFS. These are the modified NMFS TED, the Georgia Jumper, the Cameron TED the Matagorda TED the Mississippi Hybrid and the Morrison soft TED.[160] These devices were estimated to cost about $400 for both materials and labour. NMFS expected the device to exclude 97 percent of turtles without a significant reduction in shrimp harvest: thus meeting both the principles established during the initial negotiations.

Following the publication of the final rule, in August 1987 the Attorney-General of North Carolina petitioned NMFS to withdraw those parts of the regulations that applied to North Carolina waters and were not included in the draft proposal. He argued that the addition of such waters amounted to an abuse of agency discretion, and threatened to file suit in U.S. District Court if these section were not removed. In the October NMFS agreed to withdraw the disputed provisions.

In November 1987 Congressman Billy Tauzin announced that he would try to attach an amendment delaying mandatory TEDs for the year to the ESA reauthorisation bill, at the time under consideration.[161] In the December of the same year and during consideration of the ESA reauthorisation a fight on the floor of the House of Representatives concerning the TED requirements resulted in a 270-147 vote against the delay of the regulations.

Around this time the state of Louisiana filed suit in the U.S. District Court seeking an injunction against the enforcement of the final TED rule on the ground that the rule was arbitrary and capricious due to its lack of consideration of the special conditions that exist in each state.[162] This claim was based on four further contentions:

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160 *Ibid.* The baseline for approval of a TED by the NMFS is 97% exclusion of turtles, including those as wide as 32 inch curved carapace in the Gulf and 35 in the South Atlantic, and as small as 6 inch linear width (Conner (1987) *op. cit.* n118).

161 In Florida commercial harvesters contribute relatively little to the economy compared to recreational interests. In Louisiana by contrast commercial harvesters are both economically, and by virtue of their number politically significant. Also is a historical long-standing tension between Washington DC and Louisiana, which became intertwined in the TEDs debate. For may years Congressman Billy Tauzin repeatedly put proposals before Congress that would either weaken the ESA as a whole or specifically amend it to weaken the sea turtle provisions. His constituency is the LA shrimp fishermen. Though there is some question as to the extent his proposed alterations were in response to this issue specifically or a more general desire to reform the ESA. Per. comm. confidential source.

162 Ordinarily a court will overturn an agency regulation for only one of four reasons:

1. if the regulation exceed the agencies authority
2. if the regulation is an abuse of the agencies discretion
3. if the regulation is arbitrary or capricious or
4. if the regulation was adopted by improper procedure.

- a lack of testing of TEDs in the various states prior to the imposition of the rule,
- a lack of proof that endangered turtles occur in Louisiana waters in numbers of enough significance to justify the regulations,
- that the regulations were overly broad and not adopted in accordance with the Administrative Procedures Act and alternatives not adequately considered, and finally
- that the regulations violate the shrimpers constitutional right to due process of law and equal protection.[163]

Attorneys-General in both Texas and Alabama expressed interest in joining as plaintiffs in the Louisiana suit. And the Concerned Shrimpers of America led by Mialjevich made a similar expression of interest.[164]

Shrimpers and NGOs had meanwhile resumed negotiations endorsed by the Louisiana Senator John Breaux. These negotiations however broke down when shrimping representatives refused to describe a program of TED testing that they would find credible.[165]

In mid 1988, Senator Howell Heflin of Alabama proposed an amendment to the ESA that would delay the TED requirements for two years and require a study of sea turtle conservation by the NAS. In so doing he questioned the endangered status of the Kemp's ridley.[166] With limited time before the TED regulations for the Gulf of Mexico became active the Senate approved Heflin's amendments. The provision calling for the NAS study was also passed, a concession to Senator Heflin so as to contain his objection to Senate consideration of the ESA's reauthorisation.[167] After further negotiations between the House and the Senate, the House also passed the ESA

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163 Wilkins, J., "TEDs and the Endangered Species Act of 1983" (1987) 65 *Louisiana Coastal Law* 1 at 4-5.

164 Conner (1987) *op. cit.* n118.

165 Weber et al. (1995) *op. cit.* n140 at 16.

166 The council came to be simply because the fishing industry did not believe the NMFS science that there was a bycatch problem so Congress said they would create this panel of independent scientists to assess the information. Per. comm. Theresa Conant, Fisheries Biologist National Marine Fisheries Service (NMFS), Office of Protected Resources, Washington DC, 19 April 1990.

167 Senator Heflin's power stemmed form a Senate rule that provides any Senator the ability to place a hold on any piece of legislation to prevent it from coming to the floor for action.

Nowhere mentioned in Senate rules or precedents, holds are an informal device unique to the upper body. They permit a single Senator or any number of Senators to stop — sometimes temporarily, sometimes permanently — floor consideration of measures or matters that are available to be scheduled by the Senate. A hold, in brief, is a request by a Senator to his or her party leader to delay floor action on a measure or matter. It is up to the majority leader to decide whether, or for how long, he will honor a colleague's hold. Scheduling the business of the Senate is the fundamental prerogative of the majority leader, and it is done in consultation with the minority leader. Per. comm. Eugene Buck, *op. cit.* n10, referring to Oleszek, W., *"Holds" in the Senate* (unpublished report, CRS Government and Finance Division, Washington DC).

reauthorisation bill including the TED provision. The mandatory use of TEDs in offshore waters was not to take effect until the first of May 1989, and requirements that tow times be restricted to 90 minutes or that TEDs be used in inshore waters and bay was delayed an additional year. In October 1988 President Reagan signed this bill into law.

Meanwhile the law suit brought by Louisiana and supported by several other states faltered. In early 1988 the Federal District Court in New Orleans rejected the plaintiff's arguments, finding ample evidence of the need for and efficacy of TEDs in reducing the bycatch of sea turtles, and upholding NMFS's authority to require TEDs. The court did however suspend the regulations pending an appeal by the state. And in response to the rule's suspension in Louisiana, the NMFS suspended the TED regulations throughout their range. At appeal the state of Louisiana's claims were again rejected, the court once again finding ample evidence of the need for and utility of TEDs.

Having grown weary of this ongoing uncertainty and tired of waiting for federal action to conserve sea turtle, the state of South Carolina adopted its own TED regulations. These required the use of TEDs in all state waters in 1988, including inshore waters. The South Carolina, regulations did meet with opposition at the time. Regular challenges to the validity of these regulations were mounted and each time rejected by the courts. Throughout this process and during judicial review the regulations were periodically suspended. As newer and lighter TEDs such a the "Georgia Jumper" began gaining greater acceptance among some South Atlantic shrimpers, the South Carolina regulations became increasingly accepted as a necessary, and by some as even a beneficial, part of the shrimping. Notably the number of sea turtles washing up on South Carolina beaches declined significantly.

Regardless of the legal and political machinations of the TED and turtle-shrimp process, the actualities were that for the short periods of 1988 where the TED regulations were active, there was widespread violation.[168] Indeed in final throws of 1988 intense shrimping off the Florida and Georgia coast led to massive strandings of Kemp's ridley sea turtles, these making up 71 of the 171 dead sea turtle strandings. As a result of these strandings, early in 1989 the state of Florida, which had traditionally been opposed to TEDs, promulgated its own regulations requiring the use of TEDs in state waters. Federally, NMFS followed suit.

168 Dyer and Moberg (1992) *op. cit.* n132. The situation was perhaps exacerbated in that, through 1988, enforcement agents would only issue warnings to shrimpers who did not use TEDs in required areas.

With the inauguration of George Bush as President a new group of political appointees assumed responsibility for implementing the ESA. Most of them were entirely ignorant of the controversy over TEDs that had gone before them.[169] Robert Mosbacher was appointed as the new Secretary of Commerce. A former Houston businessman, the anti-TED coalition sensed an ally.

Secretary Mosbacher met with shrimpers and their Congressional representatives and, in contrast to the reaction of the previous executive, the regulations were rewritten in a matter of days. In response to political pressure Secretary Mosbacher announced that the enforcement of TED requirements would be suspended for another 60 days after the first of May. Justification for this extension was that it was necessary to allow shrimpers time to purchase and install the devices. The fact that shrimpers had known of the pending requirements for roughly seven months was apparently not relevant. Rather than having any particular sympathy for shrimpers however it has been suggested that though he

> may have been more vulnerable to the pressure from the industry, he was more just wishing that the issue would go away. ...Mosbacher was simply afraid to take a hard stance or firm position based on the science he was trying to appease every one.[170]

As the 60 day suspension period drew to a close, suggestions that there were unusually high levels of sargassum weed in the gulf clogging up TEDs began to spread. In response to claims by Congressman Tauzin of Louisiana that seagrasses clog up TEDs and that this would lead to the financial ruin of the industry, Secretary Mosbacher again suspended TED regulations while NMFS conducted surveys for TED-clogging seaweed. Investigations found in only 5 out of 250 trawl samples contained sargassum weed. Mosbacher reluctantly reinstated the rule, apologising to Gulf of Mexico Congressmen that he had no alternative, and on 22 July 1989 the Coast Guard was directed to enforce TED requirements.

In response shrimpers began a concerted period of protest and civil disobedience. They blocked the Houston shipping channel, prevented navigation by ferries and weekend craft, and some resorted to throwing wrenches at Coast Guard personnel. Secretary Mosbacher flew to Galveston, Texas to meet with 24 members of the gulf Congressional delegation and the Concerned Shrimpers of America. In response to these talks he immediately announced the suspension of the TED regulations for a further 45 days. As a concession to NGOs the Secretary had been assured that shrimpers would avoid downing sea turtles by limiting their tow times to 105 minutes,

169 Weber et al. (1995) *op. cit.* n140.

170 Per. comm. Dr Debby Crouse *op. cit.* n155.

a duration well beyond that likely to cause a turtle to drown. Once again the Coast Guard found that the tow time restrictions were not being complied with. Of 473 vessels observed in one period, 274 — more than half — were exceeding the agreed tow time.

Immediately after the suspension of the TED regulations the National Wildlife Federation and its affiliates filed suit to have the rules reinstated. In August a Federal District Court found that the suspension of the TED rules was unlawful, and ordered NMFS to reinstate the TED regulations or to adopt an alternate means of protecting sea turtles from bycatch. At the suggestion of the shrimping industry, NMFS proposed replacing mandatory TED requirements with continuation of tow time limits. The provision to use of tow times to minimise turtle bycatch lasted 30 days during which period the Commerce department reviewed sea turtle conservation in U.S. waters. In the face of massive violations of the tow times NMFS reinstated the TED regulations on 13 September 1989, and these were enforced by the Coast Guard by Mosbacher's direction as of October 15. One commentary has suggested that this was tantamount to admitting that even if tow times were observed that as many turtles would die as had there been no tow time limits at all.[171] The regulations remained active in the Gulf of Mexico until the 30th of November.

In a desperate search for a politically palatable solution, on a flight to New Orleans on 8 September several Congressmen raised the issue, and by reports harangued President Bush to the extent that he directed his Chief of staff to look into the TEDs dispute. So directed, John Sununu met with Gulf representatives to procure alternatives to TEDs. In the event he decided not to pursue the issue.

In April 1990 the NAS issued its long awaited report on sea turtles. Its investigations found that as many as 55,000 sea turtles were captured incidentally in shrimp trawls. It thus suggested that NMFS's estimates were as much as four times too low. The report's findings also confirmed NGOs' position that shrimp-turtle bycatch threatened the survival of sea turtles more than all other human activities combined and that TEDs are the single most important action needed for sea turtle recovery.[172]

> Some folk played the issue as far as they could but that ultimately the facts were compelling.... The NAS report brought some sort of closure to the issue, it had a tremendous impact, reinforcing what scientists had been saying all along and suggesting that NMFS estimates were too low by perhaps 4 times – the facts directed the outcome.[173]

171 Weber et al. (1995) *op. cit.* n140 at 21.

172 National Research Council (NRC), *Decline of the Sea Turtle: Causes and Prevention* (National Academy Press, Washington DC, 1990).

173 Per. comm. Dr Debby Crouse *op. cit.* n155.

The NAS report called for the use of TEDs in most places at most times of the year, including areas that were not within extant regulations.

Given the events that surrounded the initiation of the report — that was, under persistent request from Senator Heflin a strong opponent of TEDs — the conclusions of the report were perhaps unexpected. Alternatives to shrimp related efforts, such as headstarting and captive breeding programs, were rejected as legitimate conservation options. In addition to the widespread mandatory use of TEDs the report called for the restriction of tow times to no more than 40-60 minutes, if these were to be used at all. Several months later a NOAA technical Internal Review Committee convened after the release of the NAS report called for an extension of the seasonal TED requirements to year-round requirements. In so it they emphasised the importance of not allowing another season of shrimping in the waters of North and South Carolina, and Georgia to pass without TED requirements being fulfilled. Despite this position another season did pass without federal TED regulations.

Some progress had however been made in the states. Earlier in the year the Florida supreme court had upheld the state TED regulations, and later in the year State of Florida promulgated regulations that required TEDs year-round on all trawls in state waters. In South Carolina where state promulgated regulations had mandated TED use until September 1 the number of stranded turtles was at a ten year low. The number of dead turtles washed ashore on the South Carolina coast however rose dramatically from September when the mandatory TED period closed. In October 1990 the State of Georgia followed suite implementing its own TED requirements.[174]

Bowing to pressure from both the White House and Gulf of Mexico Congressional members NOAA convened yet another meeting of a TEDs advisory group in March 1991. Little was achieved by this. No significant new information was presented and industry representatives refused to accept the NAS findings.

In 1991 observations on commercial shrimp trawlers showed that as shrimpers gain experience with TEDs that losses in shrimp catch declines to less that one percent. The CEE, now renamed Center for Marine Conservation (CMC) began to press NMFS to take action on the NAS and NOAA Internal Review Committee recommendations. To this end a coalition of conservation organisations threatened to sue for such action. In mid 1991 NOAA administrator John Knauss presented a proposal to implement the NAS's recommendations. Unsurprisingly Gulf Senators objected to this.

174 Significant differences exist between states depending on where most of the trawling is done and which shrimp species is being targeted.

On the first of August 1991 NMFS published proposed regulations to extend the TED requirements through the fall season in the Atlantic. These were later adopted. Notwithstanding the recommendations of both the NAS and its own internal review committee, NOAA however shied away from proposing these same regulations in the Gulf.

In mid 1992 conservation organisations released a study of shrimp fishing since TED rules became effective. The study had found that since the use of TEDs was mandated the turtle take had significantly reduced and the shrimp catch had risen slightly. The predicted economic catastrophe had not materialised.[175] Soon after NMFS published a proposed rule to extend TED requirements to all nets all year.

In August 1992, with Presidential elections approaching, the Office of Management and Budget met to discuss the proposed TED regulations with shrimping representatives. Equity of access was denied to NGOs, as the office refused to meet with them. The outcome of the meeting was that in September 1992 the Office demanded an additional 45 day public comment period. This expired in the December, after the election. NMFS published its regulations implementing many of the NAS's recommendations. Specifically this compelled the use of TEDs on trawlers in offshore areas and larger inshore trawlers by January 1993, and for smaller inshore trawlers by December 1994.

## Concluding comments

Once again as had occurred with U.S. tuna-dolphin bycatch, both the industry and government agency resisted the need to correct the resource management failure. The situation was however somewhat different with the turtle–shrimp issue in that this time rather than the bycatch being simply unpalatable and prohibited by law, the bycaught species' survival was also at risk.

Early difficulties with the voluntary program can be attributed, at least in part, to the technical solution sought. A technical solution often requires high levels of skill and motivation. Indeed TEDs must be installed and used to fine specifications so as to work, and small adjustments may have major impacts upon shrimp loss. Poor

175 It seemed that by this stage much of the opposition to TEDs had waned and that many fishers were aware of the benefits offered by TEDs. In mid 1992 Hurricane Andrew hit off the Louisiana coast and the NMFS quickly responded with a short term suspension of the TED regulations. Noteworthy however few vessels registered to take advantage of this temporary exemption. Many shrimpers preferred to continue to use TEDs. It has been mooted that this was both to avoid the alternative of restricted tow time that was required in lieu of TEDs and moreover because of the potential for TEDs themselves to exclude much of the debris that would otherwise be captured in the trawl.

communications also contributed to fishers antagonism towards TEDs, and even as the device improved the resistance offered by fishers continued.

Conflict existed not only — as has become common in bycatch issues — between fishers and environmentalists, but also between and within federal departments. And in the Department of Commerce it flourished. Significant impairment to the progress of sea turtle bycatch reduction was caused by the breakdown in relations between NMFS and the SGES: that is between the policy section, and the implementation and education section of the Department. Although not causing the disturbance of latter years, the non-advocacy role assumed by the SGES can be blamed in part for the failure of NMFS's voluntary adoption scheme.

Its refusal to actively promote TEDs did nothing to alleviate fishers opposition thereto, or to alter the mindset that the devices were unduly burdensome. This belief ran contrary to the position advocated by NMFS. And thus the validity of scientific data and opinion was another major component to the controversy. It is clear that shrimpers' perceptions of TEDs contrasts sharply with those of NMFS, though it is important to distinguish that shrimpers' problems were with TEDs and not the turtles. Shrimpers encountered the animals only infrequently.[176] Notwithstanding the occasional nature of encounters, the cumulative effect of the industry as a whole was devastating for sea turtle populations. However because of the dwindling numbers many shrimpers no longer had practical evidence for believing that shrimp fishing was a major cause of marine turtle mortality, hence nor that any modification to their practices were necessary. Secondly shrimpers debated with the NMFS the scientific rigor of its studies as to the degree of shrimp loss and turtle exclusion caused by TEDs.

Disputes also arose between NMFS and FWS who desired a more stringent application of the ESA. Indeed NMFS was under siege from all quarters,

> [there was a] public charge by environmentalists that the NMFS was dragging its feet on the implementation of TEDs. Many shrimpers ... argued that NMFS people were out to get shrimpers. Still others, like some officials with sea grant Extension Service argued that NMFS did not communicate enough with shrimpers.[177]

As expected conflict also arose between environmentalists and fishers. Perhaps because of an awareness of the anti-regulatory mood of the government, the Executive, and Congress, NGOs did not appeal stringently to the public for support as they had on previous issues, but rather relied on judicial remedy.

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176 Weber et al. (1995) *op. cit.* n140 at 8.

177 Margavio et al. (1993) *op. cit.* n118 at 277.

An intense legal and political battle followed the instigation of mandatory TEDs. While shrimp fishers may have the sympathy of their Congressional representatives, on a national scale environmentalists were able to secure much broader support. Thus efforts to create a "shrimping exemption" in the ESA failed. In 1989 the TED regulations were reimposed permanently, and two years later they were finally enforced.

## 4.5 Section 609 ESA - Import Restrictions for Turtle Protection

In 1989 Congress increased the protection offered to turtles through an amendment to the ESA.[178] Attached as a rider to an appropriations bill, section 609 *Conservation of Sea Turtles: Importation of Shrimp*[179] conditioned the importation of shrimp on the meeting of certain conservation practices. To recall, one of the shrimpers' main complaints had been that without coordinated management across international boundaries few gains in turtle conservation would be achieved. To be sure as well as hoping to reduce the unnecessary bycatch of turtles by encouraging foreign countries to upgrade their sea turtle protection practices and technology, shrimpers hoped to create a level playing field between their domestic produce and imported goods.

> U.S. shrimpers were concerned that if they were pulling TEDs and facing the economic loss that went therewith then it wouldn't be fair if the Mexican shrimpers were not subject to the same requirements. Indeed many of the shrimping families are cross boarder families - there are Mexicans that live in Mexico and there are Mexicans that live in Texas and they both are in the shrimping industry, so they knew very well what was going on in Mexico and they didn't like it.[180]

In both these aims they were supported by NGOs. To environmentalists the extraterritorial application of the turtle bycatch laws was also a recognition of the huge threat that the US shrimp market places upon turtle populations outside the U.S..

A precursor to section 609 was introduced in March 1987 concomitant to domestic TED regulations. H.R. 1658 was introduced by a Texan member, Solomon Ortiz, to ban the import of shrimp and shrimp products that lacked provisions comparable to those in the US for protecting endangered or threatened species from incidental take. This however died in Committee.[181]

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178 Although these amendments were technically not formal amendments to the ESA as they were adopted and codified as free standing legislation, they have subsequently been treated in court as part of the ESA regime due to their partial basis upon the ESA listing of turtles and habitat scheme, and because they furthered the policy objectives of the Act.

179 *Departments of Commerce, Justice and State, the Judiciary and Related Agencies Appropriations Act* of 1999, Pub. L. No. 101-162, 103 Stat. 1988, 1037 (1989), §609, *Conservation of Sea Turtles: Importation of Shrimp* (hereafter "section 609").

180 Per. comm. Jay Johnston *op. cit.* n115.

181 When introduced H.R. 1658 was referred to both the House Merchant Marine and Fisheries as well as the House Ways and Means Committees. Double referral often complicates the legislative procedure,

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Also towards the end of 1989 President Bush signed into law PL101-162 (section 609). This required the embargoing of the importation of shrimp into the U.S. from nations that did not adopt sea turtle conservation measures as stringent as those in U.S. waters. Interestingly, especially in light of the fate of previous legislative initiatives, section 609 was enacted as a rider to an appropriations bill. Appropriations riders allow significant changes in policy to occur without public input or legislative accountability, and have been criticised for being a circumvention of the democratic process. They are often used to avoid confronting fundamental conflicts in public values.[182] As such, most environmentally related laws passed as appropriations riders and have a clearly negative environmental impact, however section 609 does not fit this mould.[183] It can thus be mused that perhaps it was so passed to avoid the scrutiny of the agencies, and the White House?[184] During the Reagan and to a lesser degree the Bush administration, Congress was known to resort to "omnibus" bills that combined Congress's priorities with some of the Presidents priorities so as to discourage vetoes.[185]

Two action forcing mechanisms were contained in section 609. The first, subsection a, required the Secretary of State to initiate negotiations with all foreign countries to develop treaties to protect sea turtles and to report to Congress on such negotiations. Subsection b(1) then requires the Secretaries of State, Commerce and Treasury to prohibit the importation of shrimp products from all nations that fail to mandate shrimp practices that provide a comparable level of protection as to that offered under U.S. counterpart laws. It is worth noting that, although the language makes such

having to clear two committees before floor consideration is possible. Per. comm. Eugene Buck *op. cit.* n10. Bills to limit shrimp imports and place tariffs upon such have been routinely proposed since the 1970s. For example H.R. 16315, 17114 and 17532 in the 93rd Congress. These bills have consistently died in committee. In the late 1980s these evolved to be linked to sea turtle conservation requirements and ensuring that no competitive disadvantage due to TED requirements would emerge. Other bills introduced around the same time as H.R. 1658 include H.R. 2620 the "Turtle Protection Parity Act of 1989"; H.R. 3442 which not only required the use of TEDs but also prohibitions on the taking of eggs and other activities that hinder sea turtles reproductive abilities. These too failed to make it out of Committee. For a complete discussion see Ple, J-P., *Just and Unjust Environmental Economic Intervention: An Analysis of United States Foreign Policy to Protect Whales, Dolphins, and Sea Turtles* (University of Delaware, Doctor of Philosophy dissertation, 1995).

182 Zellmer, S., "Sacrificing Legislative Integrity at the Altar of Appropriations Riders: A Constitutional Crisis" (1997) 2 *Harvard Environmental Law Review* 457.

183 *Ibid.*

184 Due to the perceived inappropriateness of the use of appropriations riders to set policy directions and the lack of safeguards contained therein, there is a long standing prohibition on the use of appropriations riders to modify existing substantive laws or inclusion of new policy directives. "Standing rules of the U.S. Senate, Rule 16(4)" *Committee on Rules and Administration, Senate Manual* 624 (1995); and "Rules of the House of Representatives, Rule XXI (2)" in Johnson, C., *Constitution, Jefferson's Manual and Rules of the House of Representatives* 624 (1995). Notwithstanding the existence of these prohibitions since the 1830s, Congress is able to suspend or waive these rules attached to appropriations riders.

185 *Ibid.*

actions mandatory, when President Bush signed the bill into law he made it patently clear that the administration interpreted section 609 requirements as discretionary, stating

> under our constitution it is the President who articulates the Nation's foreign policy and who determines the timing and subject matter of our negotiations with foreign nations. Accordingly, keeping with past practice, I shall treat these provisions as advisory, not mandatory.[186]

Subsection b(2) created a process whereunder nations desiring to import shrimp into the U.S. must be certified by the U.S. government. The U.S.'s leverage once again came from the considerable interest of the U.S. market. United States shrimp imports total more than $US1.2 billion per year.[187] Certification was to be carried out by the President (acting through the Secretary of State), and must be supported by credible evidence. It was available to fishing nations whose take rate was comparable to that of the U.S.'s[188] as judged by meeting the following conditions:[189]

- countries with a fishing environment that does not pose a threat of incidental takings of sea turtles because of:
  a. an absence of the species within its jurisdiction,
  b. exclusive use of harvest methods which do not pose a threat to sea turtles, or
  c. whose commercial harvest occurs exclusively in areas where sea turtles do not occur; or
- harvesting nations that provide documentary evidence of the adoption of a regulatory program governing the bycatch for turtles in shrimp trawling operations to the effect that:
  a. requirements of the use of TEDs are comparable in effectiveness to those in the U.S., and
  b. a credible enforcement effort including monitoring compliance and appropriate sanctions is in place.

Without certification the Secretary of State was required to embargo the importation of shrimp and shrimp products from the relevant nation(s).

The actual process of shrimp certification was delayed due to recognition that both the responsible federal departments, and nations who wished to comply with the requirements, would need some time to get themselves economically and

186 "Statement by President George Bush upon Signing H.R. 2991 21 November 1989" (1989) 25 *Weekly Compilation of Presidential Documents 1808*, 27 November 1989.

187 Taken from a U.S. Commerce Department Report and reported in Ruling Seen Barring Most Shrimp Imports to U.S., Reuters (3 May 1996) available in LEXIS, News Library, Wires file.

188 The average incidental take rate will be deemed comparable to the U.S.'s if the harvesting nation requires the use of TEDs in a manner comparable to that of the U.S. program. 61 Fed. Reg. 17342 (19 April 1996)

189 56 Fed. Reg. 1051 (1991); 58 Fed. Reg. 9015 (1993); and 61 Fed. Reg. 17342 (1996).

administratively equipped. The certification program was to be formally implemented by 1 May 1991. Once again, though, the agencies failed to meet this deadline.

When section 609 was applied, guidelines promulgated by the State Department interpreted the Act as only applicable to shrimp fishing nations in the Western Atlantic and Caribbean regions.[190] The department justified this restriction of scope by contending that Congress had intended the TED requirement to apply only to sea turtles that were harvested in, or migrate through, U.S. coastal waters. Consequently section 609 was applied only to 16 nation States. Certification was based upon a minimum requirement for TEDs to be installed on a significant number of shrimp trawl vessels. Of these, only two were found to be compliant and certifiable. The State Department then delayed the application of embargo provisions on the remaining 14 nations. It was later reported that the Department of State had been concerned about the economic hardship this would cause to these nations who combined, exported $3 billion worth of shrimp to the U.S..[191] It has alternatively been suggested that the real impetus behind the Department of State's limitation of the application of these legislative requirements was political.

> It had to do with the Bush and Clinton Administrations' interest in avoiding a high-profile international trade dispute. Such a dispute could potentially undermine the United States' credibility as a free trade advocate, and therefore undermine adoption and implementation of GATT and NAFTA.[192]

## Concluding Comments

Unlike the domestic TED requirements, section 609 was met with no complaint from domestic stakeholders. Indeed it had been the shrimpers who had originally requested the development of parallel international regulations. Regardless, the international developments simultaneous to domestic policy initiatives, had no apparent effect on shrimpers efforts to rid themselves of the troublesome TED regulations. Though perhaps in the long run these did help secure domestic enforcement.

Notwithstanding the universal domestic support for section 609, the implementing agency, again the Department of State, seemed hesitant to impose the full force of the available sanctions. Perhaps unsure of its legal ground, it is however more likely that this tentative approach stemmed from ongoing international trade negotiations.

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190 58 Fed. Reg. 9015-16 (1993).

191 "Judge Says Law to Save Turtles Prevents Most Imports of Shrimp" *New York Times*, 8 January 1996.

192 Kibel, P., "Justice for the Sea Turtle: Marine Conservation and the Court of International Trade" (1996) 15 *Journal of Environmental Law* 57 at 64.

## 4.6 Domestic Tuna-Dolphin Bycatch Control

To recall, the end of the 1970s saw the partial resolution of the issue of domestic dolphin purse-seine bycatch with the creation of a decreasing quota for U.S. ETP tuna vessels. The judicial interpretation of the MMPA in *Committee for Humane Legislation Inc v. Richardson* however led to heightened fears that the MMPA would be read to require incidental takings be reduced to zero regardless of the technology and practicability of such.[193] These concerns of the potential implications of an unfavourable legal determination appear unfounded, and perhaps ingenuous, given both legislative history, and agency and judicial interpretations of the Act; replete with statements that the MMPA would not be used to force fishers out of business.[194] Nonetheless, the House Report makes it clear that the Merchant Marine and Fisheries Committee were sympathetic to the tuna industry's concerns, and consequently the tuna fishers received the reassurance they sought.[195] The amendment was clearly not intended to signify any departure from the tenure of the statute as it stood —its intent was to create assurances that the Act would be interpreted to require that dolphin bycatch be reduced only as much as it was practically feasible.

Thus in 1981 the MMPA was amended so as to introduce additional exemptions for purse-seiners, and to clarify the interaction of best feasible technology with the zero mortality goal. The Act was amended so as to qualify the zero take goal in relation to its application to yellowfin purse-seining operations. It provided that the zero mortality goal shall be satisfied in the case of the incidental taking of marine mammals in purse-seine operations by the

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193 *Marine Mammal Protection Act: Hearings on H.R. 2947 Before the Subcommittee on Fisheries and Wildlife Conservation and the Env't of the House Committee on Merchant Marine and Fisheries*, 97th Cong., 1st Sess. (1981) (testimony of David Burney, Counsel, U.S. Tuna Foundation).

194 For example the *Committee for Humane Legislation, Inc v. Richardson*, (540 F.2d 1141, 1148) reading congressional committee reports to state that the MMPA was "not intended to force tuna fishermen to cease operations"; see Alker, S., "The Marine Mammal Protection Act: Refocusing the Approach to Conservation" (1996) 44 *UCLA Law Review* 527 at 538.

195 The Committee found that:

> the administrative provisions of the MMPA relating to incidental take have been characterised by excessive litigation. The tuna industry is operating in fear of being shut down by law suits, a fear which hampers investment in America's distant-water tuna fleet.
>
> This fear is generated by those provisions of the Act which establish as the immediate goal of the Act that the incidental kill or serious injury of marine mammals pursuant to commercial fishing operations by reduced to insignificant levels approaching a zero mortality and serious injury rate. ... The tuna industry ... would be faced with severe economic consequences if a court interpreted the zero mortality goal in the strictest sense and failed to take into account the economic and technical practicability of achieving that goal. (*MMPA of 1972: House of Representatives Report (Marine Merchant and Fisheries Committee)* No. 97-228, [To accompany H.R. 4084] 97th Cong., 1st Sess. (1981), reprinted in 1981 U.S.C.C.A.N. 1458 (hereafter "H.R. Rep. 97-228").

> application of the best marine mammal safety techniques and equipment that are economically and technologically practicable.[196]

In passing this amendment the "substantial progress made by the tuna fleet in developing new techniques and equipment for reducing marine mammal mortalities" was highlighted.[197] It has been suggested that the amendments were made possible due to a shift in the political balance in the ATA's favour.[198] Such improvement had stemmed not from any active lobbying of Congress, but rather an impressive performance of bycatch reduction by the tuna industry: witnessed in the fall in incidental cetacean takings by tunaboat operators from an estimated 386,000 in 1972 to 18,573 in 1980.[199]

Despite the concession granted to the tuna industry, Congress made it clear that it did not intend to lessen the Secretary's authority to prescribe quotas. Reflecting that this was a genuine commitment, Congress did not interfere with recent NMFS regulations that limited the number of permissible dolphin mortalities caused by the U.S. fleet (of 81 vessels) to 20,500 per annum, from 1980 until 1985.[200] This was a considerable reduction from the previous quota of 31,150 dolphins as allowable bycatch each year.[201] It was though, like the 1977 quotas, was based on economic and technological feasibility, while ensuring that the permissible take would not be to the disadvantage of the population.[202]

Indeed Congress effectively offered an endorsement of NMFS's regulations and quota. It amended the statute to require that fishers submit to the NMFS quota—a significant change from the previous situation whereby fishers had not been prosecuted for failing

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196 *MMPA Amendments* of 1981, Pub. L. No. 97-58, 95 Stat. 979-80, §1371(a)(2), [s101(a)(2)].

197 H.R. Rep. 97-228 *op. cit.* n195 at 1468. Interestingly however Congress declined to extend this amendment to all fishing operations. Other fishing industries compared poorly and were not seen to warrant similar favourable treatment. The Report went on to say that, in the absence of a similar safety-net extended to the entire fishing industry, the goal of the MMPA (to achieve a zero mortality) may itself be useful as a stimuli for the development of new bycatch reduction technology

198 Black, D., "International Trade v. Environmental Protection: The Case of The U.S. Embargo on Mexican Tuna" (1992) 24 *Law and Policy International Business* 123-156 at 128.

199 Joseph, J., "The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts" (1994) 25 *Ocean Development and International Law* 1 at 3. It is worthwhile recalling however that the figure of 386,000 is however likely to be inflated due to the small amount of data from which the figure was extrapolated. Per. Comm. Dr Martin Hall, InterAmerican Tropical Tuna Commission/Scripps Oceanographic Institute, San Diego (CA), 26 April 1999; Per. comm. Euene Buck *op. cit.* n10.

200 45 Fed. Reg. 72,178 (1980).

201 MMPA, §1371(a)(2), [s101(a)(2)] (as amended by the *Act to Improve the Operation of the Marine Mammal Protection Act of 1972, and for Other Purposes*, Pub. L. No. 97-58, 95 Stat. 979 (1982)); see Joseph (1994) *op. cit.* n199 at 4.

202 45 Fed. Reg. 72,179-80, 72,185 (1980).

to comply with quota requirements.[203] In so doing Congress also acknowledged the situation of small fishing operators and exempted them from the MMPA's cumbersome permit requirements for the incidental take of small numbers of non-depleted marine mammals.[204]

The insertion of the prosecution provision caused considerable unrest in industry circles. In 1980 NMFS had promulgated to extend the allowable uses of information gathered by onboard observers so as to include "civil or criminal penalty proceedings, forfeiture actions, or permit or certification sanctions."[205] Notwithstanding that the practice of forwarding observer information had been occurring since 1974, subsequent to the 1981 Congressional amendments the tuna industry reacted severely to the formalisation of this arrangement.[206]

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203 See also Sauer, M., "Balancing Marine Mammal Protection Against Commercial Fishing: The Zero Mortality Goal, Quotas, and the Gulf of Maine Porpoise" (1993) 45 *Maine Law Review* 419; and Alker (1996) *op. cit.* n194.

204 H.R. Rep. 97-228 *op. cit.* n195. These changes significantly broadened the protection offered to the fishing industry through the allowance of "infrequent, unavoidable, or accidental" bycatch. The streamlining of procedures was aimed at countering the situation whereby small fishers, whose take was much less than that of the commercial tuna fleet, were acting illegally by not applying for bycatch permits due to the complexity of procedures. The intention was to remedy this scenario by establishing arrangements where small operators were not in breach of the laws. Moreover, it was hoped that a more comprehensive application of the permit system would improve NMFS data. Consequently Congress conditioned this allowance on adherence to provision to be promulgated by the Secretary for guidelines for the monitoring and reportage of take.

205 50 C.F.R. §216.24(f)(1) (1980); 42 Fed. Reg. 72196 (1980).

206 Coinciding with the end of the two year exemption period for commercial fishing, and the invocation of the 1974 requirement for permits for the incidental take of marine mammals, the observer program terminated. It was clear, though, to the Secretary of Commerce that (as the anticipated technological breakthrough to eliminate dolphin bycatch had not occurred) the only effective means of enforcing the Act was to retain observers on board. Further and in order for the Secretary to fulfil his duties in relation to the collection of scientific data "for the purpose of devising fishing methods ... so as to reduce to the maximum extent practicable the incidental taking of marine mammals in connection with commercial fishing" the continued presence of observers onboard was deemed necessary.

To this end the Department of Commerce promulgated an uncontroversial regulation which created a non-statutory observer system for the purpose of conducting research or gathering information. This regulation provided that

> [a]ny duly authorised agents of the Secretary may from time to time, after timely oral or written notice to the vessel owner or charter, board and/or accompany commercial fishing vessel documented under the law of the United States, whenever the Secretary determines that there is space available, on regular fishing trips, for the purpose of conducting research or observation operations (39 Fed. Reg. 32118,32124 (1974)).

The role of observers did not however extend to the collection of information for civil or criminal penalty, or forfeiture proceedings. Notwithstanding the lack of such a provision, observer-gathered information was regularly turned over to the enforcement branch of NMFS which issued notices of violation against crews and vessels. And since 1977 administrative proceedings assessing civil penalties had been initiated based upon observer gathered information. Nonetheless the program was broadly acknowledged as a success and was supported by the tuna industry. Slade, D., "Back to the Drawing Board: Fourth Amendment Rights and the Marine Mammal Protection Act" (1986) 16 *Ocean Development and International Law* 91 at 93.

The ATA challenged the legality of the observer program and sought an injunction against NMFS with regard to the program's constitutional validity.[207] The court in *Balelo v. Klutznick*[208] based its decision upon the fact that a NMFS agent needed to board the vessel and hence required a vantage point not available to the public. It held in favour of the plaintiff, that the observer program did contravene the 4th Amendment. The court in handing down its decision enjoined the Secretary of Commerce not to condition the grant of bycatch permits upon the acceptance of onboard observers to collect information for purposes other than scientific.[209]

The Secretary appealed the decision to the Ninth Circuit Court of Appeals. The decision handed down on 5 January 1983 not only upheld the previous finding limiting the collection of evidence for criminal, civil or administrative proceedings, but extended it. It held that the presence of observers onboard vessels for scientific purpose also constituted a warrantless search that was not otherwise specifically authorised under the relevant statute, the MMPA.[210]

In 1984 this injunction was overturned on further appeal. The court in *Balelo v. Baldrige*[211] found that observer regulation did not contravene the 4th Amendment and that Congress did not need to specifically authorise a search without a warrant provided it was implicit under the Act. The Secretary of Commerce was found to hold sufficient authority under the MMPA to authorise the observer program. Moreover the court upheld the earlier defense argument that observers do not constitute a search because they only report on that which is in plain view. Notwithstanding that the final decision saw the observer program reinstated, U.S. data on dolphin purse-seine bycatch was absent between 1981 and 1984.

The MMPA was again amended in 1984. The major change to the quota system was the removal of the requirement for an annual formal review of the ATA's general permit. Aimed at streamlining the process, this action was consistent with the Reagan administration's belief that free market forces would allocate the nation's resources more efficiently, and that industry should be freed from governmental regulation in order to allow the market to operate.[212]

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207 The plaintiff contended that observers onboard constituted a "search" with neither warrant nor probable cause, and hence violated the constitution's 4th Amendment protecting against unnecessary searches and seizure. The defense countered that the stationing of an observer in plain view had been established by precedent not constitute a search.

208 *Balelo v. Klutznick*, 519, F.Supp. 573 (S.D. Cal. 1981).

209 *Ibid.*

210 *Balelo v. Baldridge*, Nos. 81-5806 and 81-5807 (9th Cir., Jan. 5, 1983) at Part IV.

211 *Balelo v. Baldridge*, 724 F.2d 753 (9th Cir. 1984) cert. denied, 467 U.S. 1252 (1984).

212 Knecht et al. (1988) *op. cit.* n65 at 121.

In effect the setting of a long term annual quota and removal of the review process had the impact of removing any requirement (and hence opportunity) for public, on-the-record hearings. In the absence of an annual review provision the tuna industry lacked any external incentive to reduce the mortality level of dolphins as community perception of the product would not suffer from an increase in dolphin bycatch so long as it remained below the NMFS's allocated take limit.[213] Furthermore the NMFS lost its mandate to monitor the industry so as to ensure best practice in available gear aimed at the prevention of dolphin take was being adhered to.

Legislative changes were accompanied by the reauthorisation of the 20,500 dolphin quota with respect to the permissible mortality per year by purse-seiners in the ETP.[214] This quota was notwithstanding that by 1983 the annual dolphin bycatch was down to only 12,000 individuals per year.[215] and that the quota applied to a decreased fleet of only 38 vessels, down from the 1981 count of 81.[216]

Unsurprisingly the allocation of a non-declining kill quota and removal of the review process was seen by environmentalists as an affront to the immediate statutory goal of reducing dolphin mortality to zero. Further, NGOs highlighted the lack of consideration given to the number of trips taken and the rate per netting or trip, and more importantly what the bycatch figure would mean for the dolphin population as a whole, in the NMFS's permit allocation.

In 1988, the MMPA was again up for reauthorisation. On November 23, towards the end of his second term, President Reagan signed the amendment bill into law.[217]

Responding to a perceived opportunity to affect the nature of proposed amendments to the MMPA, twenty five environmental and seventeen fisher based organisations formed an unprecedented alliance to seek opportunity for extensive alterations to the Act. The Earth Island Institute was at the forefront of environmentalist's efforts to educate both the public and the government about the extent and nature of the bycatch problem that pervades many fisheries methods. The catalyst which pushed the issue into the forefront of the public concerns was video footage, filmed in the Pacific Ocean

213 Coulston, C., "Flipper Caught in the Net of Commerce: Reauthorisation of the Marine Mammal Protection Act and its Effect on Dolphin" (1990) 11 *Journal of Environment, Natural Resources and Energy Law* 97 at 113.

214 H.R. Rep. 100-970 *op. cit.* n57 (recounting the content of the 1984 amendment).

215 Edwards, E. and Perkins, P., "Estimated Tuna Discards from Dolphin, School, and Log Sets in the Eastern Tropical Pacific Ocean, 1989-1992" (1998) 96 *Fishery Bulletin* 210.

216 Joseph (1994) *op. cit.* n199.

217 *MMPA Amendments* of 1988, Pub. L. No. 100-711, 102 Stat. 4755.

and shown on almost every major news station, that depicted hundreds of dolphins dying in a fishing net.[218]

The Bill proposed by the House on 26 September 1988 suggested the addition to the existing legislation of performance standards for vessel operators, the prohibition of sundown sets, and one hundred percent observer coverage on tuna vessels.[219] These were due largely to evidence presented by environmentalists, such as four fold increases in dolphin mortality during sundown sets. The same video that was successfully used to engage the public in the issue was shown at the *National Ocean Policy Hearings* and this appears to have had considerable effect on Congress.[220]

In addition to these operational requirements the 'Studds amendment' called for an annual review of the ATA permit and required the Secretary of Commerce to

> modify the terms and conditions of the general permit issued on December 1, 1980, to the American Tunaboat Association, so as to reduce the number of marine mammals taken incidental to commercial purse seine fishing for yellowfin tuna, to reduce the percentage of sets made on marine mammals, or to require the use of alternative fishing gear and techniques, in order to meet the [zero kill goals of the Act].[221]

The effect of this was intended to cause NMFS to remove the static 20,500 quota and to encourage the tuna industry to further reduce dolphin mortalities.

In the end, an amendment that established a five-year exemption for commercial tuna fishers allowing them to continue operations resulting in the incidental capture of 20,500 non depleted species of dolphins per annum, without additional permits, was made with the caveat that NMFS observers were to be stationed on all fishing boats. This was intended to both obtain data on the impact of fishing operations on marine mammals, and in the absence of individual permits this system of reportage provided a useful method encouraging compliance.

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218 The film was made by Sam LaBudde a staff member of the Earth Island Institute, who obtained a crew position on the Panamanian-flag vessel the Maria Lusia and surreptitiously filmed the netting on a hand held camcorder. The footage was shown on all major television stations and at the U.S. House of Representatives Committee on Merchant Marine and Fisheries, 8 September 8 1988. Considerable contention exists as to whether the film was actually shot during usual operations or if was staged. There are a number of things that are pointed to in the raising of these issues. One is the particularly good vantage point form which the film was shot, thus suggesting that either the captain did not realise the problems this would cause or that the film was intended for publicity purposes. Another issue is that the dolphin captured in the set are not a species that commonly associate with tuna, thus explaining the paucity of tuna taken in the catch. Regardless however to the veracity of the set filmed. The fact remained that there is cetacean mortality caused in the ETP by the practice of setting on dolphins.

219 H.R. 4189, 100th Cong., 2d Sess. (1988), §4(d)(vi),(iv) & (vii), (House bill to become *MMPA amendments* of 1988).

220 *Marine Mammal Protection Act Reauthorisation: Hearings before the National Ocean Policy Study of the Senate Committee on Commerce, Science and Transport*, 100th Cong., 2d Sess. (1988), at 98-103 (statement of Sam LaBudde, Earth Island Institute), 120-28 (conversation between several Senators and witnesses).

221 H.R. 4189, 100th Cong., 2d Sess. (1988), §4(e)(4)(B) .

The Bill as finalised in Senate on October 14 added several provisions and was returned to the House for final approval in the final legislative hours of the last session of the 100th Congress. Including were amendments to the Bill that addressed specific operational problems. A ban on the use of explosive devices was instigated.[222] The second and the major change to the Bill as forwarded by the House, was the removal of the Studds amendment. This has been attributed to considerable lobbying from the powerful ATA coalition. Although dissatisfied by this, Representative Studds, under persuasion from the environmental community, accepted the amendments rather than be without an authoritative source until a new statute could be devised.[223]

## StarKist & the Introduction of Dolphin-Safe Tuna

A concern expressed since the passage of the 1988 MMPA amendment legislation was that an additional obstacle had been placed in front of environmental groups intent on preventing dolphin bycatch. That is, by the shifting of the quota to legislation rather than permit requirements, avenues by which environmental groups could bring suit against the NMFS so as to compel enforcement of the MMPA's zero mortality goal were removed.[224] The only available remaining action would have been to compel an agency to comply with mandated procedures such as observer coverage.

In the absence of the tool of litigation environmental groups began to search elsewhere for new ways with which to deter dolphin take. Relying on more grass roots efforts the movement looked to economic boycotts as an answer to what NGOs saw as an ongoing problem. They urged consumers not to purchase tuna caught in association with dolphins, and requested that manufactures boycott tuna caught by setting on dolphins.

The public reacted with dismay that the government had permitted such activities to continue and beginning in late 1988 consumers began locally boycotting tuna. In 1989 the *Tuna Labeling Bill* was introduced to Congress.[225] The Bill required that tuna products were labeled in a manner indicative of the method of fishing used in the catch. Although unsuccessful at the time the Bill provided the precursor for future legislative action. Meanwhile, realising the power of the public groundswell caused by the heightening of the profile of dolphin bycatch, environmentalists took out full page advertisements in major newspapers including the New York Times petitioning

222 S. 2810, 100th Cong., 2d Sess. (1988), §4(d), (Senate bill to become *MMPA amendments of* 1988).

223 See 134 Cong. Rec. H10,512 (19 October 1988) (statement of Rep. Garry Studds).

224 Coulston (1990) *op. cit.* n213.

225 H.R. 2926, 101st Cong., 1st Sess. (1989). Sponsored by Barbara Boxer of California.

StarKist (a subsidiary of H.J.Heinz Co.) to change its policy or face an even larger, nationwide consumer boycott.

The result was that on April 12, 1990 StarKist made a surprise announcement that it would no longer buy tuna from fishers who set on dolphins or tuna caught on boats without official observers on board, and hence would offer only dolphin-safe or friendly tuna for sale. By agreeing to these product restrictions StarKist risked creating a price advantage for its competitors in the market. The cost of StarKist tuna products had risen due to the increased cost of production under these self imposed conditions. This price advantage did not eventuate however, as support for the move was offered by the next two largest tuna canneries in the U.S.; Chicken of the Sea and Bumble Bee quickly followed suite with similar statements. Indeed far from disadvantaging these companies all three received extensive free publicity and increased consumer support.[226]

The resultant market closure to tuna caught by setting on dolphins caused an immediate decline in dolphin bycatch, with a reduction of at least 10,000 dolphin deaths per year by the U.S. fleet alone.[227] Although bycatch did decline between 1972 and 1990, this sudden drop suggests that had a more aggressive approach been adopted towards the implementation of the MMPA by the government, then extensive bycatch reduction may have occurred much sooner.

StarKist also agreed to support legislation introduced into the House of Representatives for labeling tuna cans as "dolphin-safe".[228] Included as part of the Fisheries Conservation Amendments of 1990 was the *Dolphin Protection Consumer Information Act* (DPCIA) which specified labeling standards for tuna products sold in, or exported from the United States.[229] Under the DPCIA "dolphin-safe" was defined to include any product made from tuna harvested by a fishing vessel that met three requirements. Firstly, that an official of the U.S. Department of Commerce or IATTC confirmed that there was an approved observer onboard the vessel during the entire trip. Secondly the owner or manager was required to provide written a statement executed by the observer, to the effect that their net was not intentionally deployed on or around dolphins. And finally each exporter, importer or processor must endorse

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226 For example the newspaper headline reading "Tuna Canners Adopt Policy to Spare Dolphins" *Boston Globe*, 13 April 1990.

227 "Dolphin Drownings in Fish Nets Fewer but Still Exceed U.S. Laws" *San Diego Union Tribune*, 3 May 1995.

228 *National Oceanic and Atmospheric Administration Authorisation Act* of 1992, Pub. L. No. 102-567, Title III § 302, 106 Stat. 4270.

229 *Dolphin Protection Consumer Information Act* of 1992, Pub. L. No. 101-627, 104 Stat. 4436, 4465-7 (16 U.S.C.1385) (hereafter "DPCIA").

these statements, in writing.[230] Thus in effect, dolphin-safe tuna referred to that which was not taken through the use of either purse-seine or long driftnet fishing methods.[231]

## Concluding Comments

Between 1981 and 1988 three sets of amendments to the MMPA were carried out. The 1981 amendments triggered an outcry from fishers, with regard to onboard observers due to a fear of their data being used as evidence in prosecutions for breech of bycatch laws. Several court cases ensued, the only long term substantive outcome of which was an absence of data between the years 1981 and 1984. The 1984 and 1988 amendments were generally to the fishers liking, however they placed considerable obstacles in front of NGOs wishing to monitor and contribute to the determination of tunaboat operators' bycatch levels.

In response to a perceived inability to effect bycatch policy through traditional channels of annual review, and having had the option of litigation removed as a possible remedy, NGOs aimed at effecting the market for tuna products caught by setting on dolphins. This represented the first foray into the use of market forces by NGOs. In the event, market forces proved to be a highly successful tool. And NGOs demonstrated their ability to harness considerable media and public support.

Perhaps anticipating the public mood and the relentlessness of NGOs in pursuing their cause, StarKist quickly acquiesced to the requested action. Alternatively, this may be seen as an active decision by StarKist that, given the public mood, such a move towards dolphins would be profitable and allow the promotion of the company as 'green'. Notwithstanding the success of the move, it did risk awarding a competitive advantage to other tuna canners — prices were increased without bestowing any benefit upon the consumer regarding product quality. The anticipated a downturn in profit due to market disadvantage did not however occur. With consumers viewing a more environmentally friendly production method as akin to an increase in product quality.

The final outcome was the successful passage of tuna labeling legislation, and a near total cessation of the U.S. sale of tuna harvested by setting on dolphins.

230 DPCIA, §1385(d)(2), [s1].

231 Hurwitz, D., "Fishing for Compromises through NAFTA and Environmental Dispute-Settlement: The Tuna Dolphin Controversy" (1995) 35 *Natural Resources Journal* 501 at 507.

## 4.7 International Reaction to Dolphin Bycatch Import Requirements

In the ten year period from 1979 to 1989 the Mexican purse-seine fleet grew by about 50% and the Venezuelan fleet tripled.[232] In this same period the foreign fleet's incidental dolphin capture rate increased from 20,000 to in excess of 100,000 per annum.[233] At the end of the 1980s foreign vessels caught 60 percent of the tuna in the ETP but accounted for almost 80 percent of dolphin mortalities.[234]

Joseph offers three possible reasons for the escalation in the 1986 bycatch figure.[235]

- Firstly the low estimates from preceding years could be attributed to a relatively low fishing effort from 1981-85 due to anomalous ocean conditions and low apparent abundance of yellowfin tuna.
- Secondly reduced U.S. effort resulted from a transfer of vessels to the Western Pacific (where tuna and dolphin are believed not to associate), so as to comply with MMPA requirements prohibiting the catch of fish by setting on dolphin.
- Finally an increase in 1986 foreign fleet bycatch could be attributed to unusually high fishing effort due to the abundance of large fish and the premium prices paid for these which stemmed from the low fishing effort of previous years.

It is also necessary to recall that the 1986 estimates were the first truly reliable estimates.[236] In 1976 IATTC governments' prepared a plan aimed at the reducing dolphins take to zero, and developing alternative methods of capturing yellowfin tuna. It was not until one decade later that full participation occurred and thus the first reliable estimate of non-U.S. vessel dolphin bycatch were available. ETP dolphin mortality for 1986 and 1987 was found to be 133,000 and 100,000 animals respectively.[237]

Faced with this information Congress was confronted with the problem that although tuna importing foreign fleets were required to have parallel protection measures, no proof of enforcement was required before the tuna was allowed to enter the U.S. market. Consequently the existing import restrictions were largely ineffective.

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232 Nations seeking to expand their fishing fleets began to adopt the purse seine method. Between 1976 and 1985 Mexico alone invested in 42 new vessels bringing its active fleet to 65 seiners and tripling its frozen tuna production. Black (1992) *op. cit.* n198.

233 Parsons, M., "The Marine Mammal Protection Act: Working Toward an Effective International Solution to the Dolphin Problem" (1991) 4 *Transnational Law* 673.

234 H.R. Rep. No. 100-970 *op. cit.* n57.

235 Joseph (1994) *op. cit.* n199 at 6.

236 Littell, R., *Endangered and Other Protected Species: Federal Law and Regulation* (The Bureau of National Affairs, Washington, DC, 1992).

237 Joseph (1994) *op. cit.* n199 at 6.

The 1988 amendments to the MMPA recognised this ongoing problem and provided additional regulations aimed at the control of foreign fishing operators.[238] In order to avoid trade sanctions a foreign nation was required to demonstrate both that it had a regulatory program to govern the taking of marine mammals in fisheries operations, and also that it had mortality rates comparable to the U.S.'s domestic operators.[239] A breaking in period was allowed which set allowable levels at no more than twice the U.S.'s by the end of 1989 and no more than 1.25 times more by the end of 1990.[240]

The MMPA also placed two additional constraints upon foreign operators: that no more than 15% of the bycatch was to be comprised of eastern spinner dolphins; and that a maximum of two percent was to be comprised of coastal spotted dolphins. In order to ensure the implementation of these amended quota requirements the Department of Commerce was required to investigate foreign tuna fisheries before any tuna was allowed into the U.S., and then if in violation of U.S. requirements of comparable dolphin kill rates, was to ban the importation of the nations' tuna products.

Secondly in its 1988 MMPA amendments Congress expanded the embargo to also apply to "intermediatory" nations; that is nations who failed to prove that they had acted similarly to ban the importation of tuna from a nation subject to a U.S. prohibition. The intent of this was to circumvent the channeling of otherwise embargoed products through a non-harvesting nation. The inclusion of intermediatory nations increased the number of foreign states potentially affected from 10 or 12 fishing States to 60-65 nations.[241] Finally the amendment provided that should any nation be subject to a ban for greater than six months, then the Secretary of Commerce must certify such fact to the President, which shall be deemed to be a certification also for the purposes of the Pelly Amendment. To recall such an action may result in the President directing the Secretary of the Treasury to ban the importation of all fish and wildlife products and derived merchandise to the U.S..[242]

An amendment the Pelly amendment ensured that intermediatory nations were also captured under the *Fishermen's Protective Act*. A sentence was added so as to allow for the sanctioning of the importation of fish products from countries who were not themselves fishing nations. Fish products were defined as

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238 "Kokechik and the 1988 MMPA Amendments" in 1990-1991 MMPA Annual Report, see url, http://kingfish.ssp.nmfs.gov/tncimtyr/mammals/1990rept/chapt02.html.

239 *MMPA amendments* of 1988, §1371(a)(2)(B), [s101(a)(2)(B)].

240 *Ibid*, §1371(a)(2)(B)(II), [s101(a)(?)(B)(II)] (1988).

241 Joseph (1994) *op. cit.* n199 at 7.

242 *MMPA amendments* of 1988, §1371(a)(2)(C) & (D), [s101(b)(2)(C) & (D)].

> any aquatic species (including marine mammals and plants) and all products thereof exported from an offending country, whether or not taken by fishing vessels of such country, or packed, processed, or otherwise prepared for export in such country or within the jurisdiction thereof.[243]

It was not only the direct application of U.S. legislation to foreign fleets that caused changes in their tuna harvesting practices. The change in policy of the three major U.S. tuna canners also led to an alteration of world tuna trade. The closure of the U.S. as a market for the large yellowfin tuna of the ETP led to an influx on the European markets and a consequential drop in the market value of fish there. Secondly it caused an outflux of U.S. vessels from the ETP who saw the area as no longer financially viable without being able to fish for the larger tuna which swam in association with dolphins. Of the 35 large U.S. vessels operating in the ETP only seven remained: 17 transferred to the waters of the Western Pacific where tuna and dolphin do not swim in association, and 11 were sold or became inactive.

One author has suggested that this policy did not however reduce the bycatch of dolphins in the fishery. Instead the tonnage of tuna remained the same and the embargoed foreign fishers simply found new markets for their catches.[244]

## NGO Enforcement: The Earth Island Institute Litigation

On March 26 1990 the NMFS issued regulations to implement the 1988 MMPA amendments as they applied to foreign fleets. These required countries to submit annual data on dolphin kill rates by July 31 1991. As such, two years after the amendments had been enacted still no real enforcing action had been taken: no import bans had been placed on any of the foreign fleets operating in the ETP, and no findings regarding the comparability of dolphin take in these operations had been made.

One reason for the U.S.'s hesitance to compel nations to cease fishing on dolphins was the problem that had become apparent in aims to achieve the duel goals of maintaining the overall health of the ecosystem whilst preventing dolphin mortality. Those tuna caught and who swam in association with dolphin were the larger yellowfin tuna (and hence more economically worthwhile per head). If tuna capture by setting on dolphins were to be banned then fishers would have to resort to log fishing or fishing on schools. These methods result in the catch of smaller - possibly undersized - tuna, an ecologically unsustainable practice. Such a scenario is ecologically undesirable: not only would such a change in method lead to overfishing but, because the smaller yellowfin and skipjacks swim closer to the shore restriction of methods to log fishing or fishing

243 *The Pelly Amendment amendment* of 1988, Pub. L. 100-711, 102 Stat. 4772.

244 Burke et al. (1994) *op. cit.* n47.

on schools would also cause political friction with relation to jurisdiction and access rights. As a consequence of this political unsurety and the proviso regarding ecologically sound methods, an immediate moratorium was deemed impossible.

Responding to the perceived inadequacy of the administration's actions the Earth Island Institute (EII) and the Marine Mammal Fund brought a federal suit against the Secretary of Commerce in the federal court of California. In *Earth Island Institute v Mosbacher* the plaintiff sought to enjoin the Secretary from allowing the importation of tuna until an adequate comparability examination had been conducted and a positive finding (rather than the absence of a negative finding) had been made.[245] On 28 August 1990 district court judge Thelton Henderson issued a preliminary injunction in favour of the EII's request, based upon the finding that there was sufficient likelihood of success on the merits of the claim and also on the grounds that

> the continued slaughter and destruction of these innocent victims of the economics of fishing constitutes an irreparable injury to us all, and certainly to the mammals whom Congress intended to protect.[246]

Pursuant to this preliminary injunction the Bush administration imposed tuna import bans on Mexico, Panama, Ecuador, Venezuela and Vanuatu on 6 September 1990. The following day the NMFS undertook the requisite comparability examination and found in favour of Mexico, that the taking rate was only 1.58 times that of the U.S., well within the allowable double. This finding hence triggered the lifting of the import ban upon Mexican tuna. Within one week all the import bans except for that on Panama had been lifted, based upon the estimated dolphin mortality statistics for the first six months of the year.

Disbelieving of the validity of the results and undiscouraged, the EII again brought suit this time against NMFS, asserting that the agency had misconstrued the MMPA in making its comparability findings. Specifically the EII contended that NMFS's finding that Mexico was within the allowable bycatch range was not calculated as per the requirements of the 1988 amendments. The MMPA required the use of annual statistics; presumably due to the otherwise possibility of seasonal permutations. In 1989 NMFS had found that Mexican operators were in violation of the 15% limit on eastern spinner dolphin as total incidental take. In its new calculations however, it used the a six month period for the first part of 1990 and found that Mexico met the requirements. Secondly the plaintiff expressed concern at the speed with which NMFS was able to compile this data and noted that NMFS had in 1990 argued at the district level court that it would take at least six months to make such findings.[247] Once again

245 *Earth Island Institute v. Mosbacher*, 929 F.2d. 1449, 145 (9th Cir. 1991).

246 *Ibid* at 975

247 *Ibid* at 1451.

Judge Henderson agreed with the plaintiff and issued a temporary restraining order to ban the importation of tuna from Mexico. On 19 October 1990 this was converted into a preliminary injunction.

In turn the federal government appealed to the Ninth Circuit asserting that the injunction infringed on the agency's discretion in interpreting the MMPA. The Circuit responded initially by staying Judge Henderson's decision but removed the stay and reinstated the ban soon thereafter. In mid April 1991, nearly a year after the initial case was laid, the Ninth Circuit unanimously affirmed Judge Henderson's preliminary injunction maintaining the import ban on Mexican tuna. The Mexican tuna embargo became retrospectively active from 26 March, 1991. This triggered secondary embargos which went into effect on May 24, sixty days after the original ban was reinstated. These secondary embargos though were placed only on nations who harvested with purse seines in the ETP, that is Costa Rica, France, Italy, Japan and Panama.

Certifications for non-compliance under the Pelly Amendment were placed upon Mexico, Venezuela, Vanuatu, Costa Rica, France, Italy, Japan and Panama and referred as required to the U.S. President. As required under the Act the President, between October 1991 and March 1992, issued responses to the certifications. These took the form of three separate "Letters to Congressional Leaders on the Determination Not to Prohibit Fish Imports From Certain Countries".[248] Such actions were a response to the ongoing negotiations with ETP nations who had been meeting since IATTC convened in September 1990 in Costa Rica to discuss a resolution to the issue of dolphin bycatch in the purse-seining operations in the region.[249]

The EII launched a third suit to force the Secretary of Commerce to extend the embargo to all secondary nations.[250] The court once again found for the plaintiff that the intermediatory embargo necessarily be placed upon tuna imports from all countries that imported yellowfin tuna to the U.S.. Hence almost 20 additional nations were listed to the embargo.[251]

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248 U.S., President, Public Papers of the President of the United States, Letters to Congressional Leaders on the Determination Not to Prohibit Fish Imports From Certain Countries (27 Weekly Comp. Pres. Doc. 1479, Oct 21, 1991); U.S., President, Public Papers of the President of the United States, Letters to Congressional Leaders on the Determination Not to Prohibit Fish Imports Form Certain Countries (28 Weekly Comp. Pres. Doc. 71, Jan 10, 1992); U.S., President, Public Papers of the President of the United States, Letters to Congressional Leaders on the Determination Not to Prohibit Fish Imports Form Certain Countries (28 Weekly Comp. Pres. Doc. 392, March 3, 1992); cited in Joseph (1994) *op. cit.* n199 at 9.

249 By the end of 1991 ETP dolphin mortality had been reduced from 1990 levels by nearly 50 percent, to 27,000 animals per annum.

250 *Earth Island Institute v Mosbacher*, 785 F. Supp. 826,836 (N.D. Cal. 1992).

251 These were Canada, Colombia, Ecuador, France, Indonesia, Korea, Malaysia, Marshall Islands, Netherlands Antilles, Singapore, Spain, Taiwan, Trinidad and Tobago, the United Kingdom, and

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## The GATT Panel Decision

In January 1991 Mexico lodged a suit with the GATT Dispute Resolution Panel (the Panel).[252] The GATT had been the primary tool through which market liberalisation has been pursued by free traders in their attempts to diminish protectionist trade barriers throughout the world.[253]

Mexico was supported by several intermediatory nations who contended that the U.S.'s action compelled them to either relinquish their right to export tuna to the U.S. or otherwise forced them to violate the rules of the General Agreement on Tariffs and Trade. The opinions and arguments of these nations were also heard by the panel. Notwithstanding the pivotal role that the EII had played in the U.S., the GATT did not formally recognise NGOs as having an international personality, and hence this group was excluded from participating, even as an observer.[254]

Mexico claimed that the U.S. embargos were protectionist tariffs and hence violated the General Agreement. More specifically Mexico contended that:

a. the MMPA was contrary to Articles III, XI and XIII of the General Agreement;
b. the *Dolphin Protection Consumer Information Act* was incompatible with Article IX;
c. this was a *prima facie* case of nullification or impairment under Article XXIII; and that moreover
d. neither Act was justified under the GATT.[255]

The Panel formed on 6 February 1991 and later that year on August 16 handed down its decision that the import ban imposed on Mexican tuna and tuna products by the U.S. was inconsistent with America's obligations under the GATT.[256] There were two parts to the Panel's decision and report, both of which have been criticised as an extremely narrow reading of the General Agreement.[257] The first part considered the conflict between two GATT articles: Article III, para. 4 and Article XI, para. 1. The

Venezulea. See "Government Asks Appeals Court to Overturn Tuna Embargo and Stay Order Pending Appeal" (1992) 9 *International Trade Reporter* (BNA) at 234 (5 February 1992).

252 Intermediatory nations in support of Mexico included Costa Rica, Panama, France, Italy and Japan. Oral and written presentations n support of Mexico at the GATT also came from Australia, Canada, the European Community, Indonesia, Korea, Norway, the Philippines, Senegal, Thailand and Venezulea.

253 Hurwitz (1995) *op. cit.* n231.

254 *Ibid.*

255 Hurlock, M., "Law and the Environment: A Proposal to Amend the GATT in Light of the Tuna/Dolphin Decision" (1992) 92 *Colombia Law Review* 2098.

256 *Dispute Settlement Panel Report on United States Restriction on Imports of Tuna*, 16 August 1991, D/S21/R, reprinted at 30 I.L.M. 1594 (1991) (hereafter "Panel Report").

257 Kubasek, N., Browne, N.M., Young, M. and Hiers, W., "Protecting Marine Mammals: Time for a New Approach" (1995) 13 *Journal of Environmental Law* 1.

second part of the Panel report discussed the extraterritorial application of the MMPA as per Article XX exemptions to the General Agreement requirements.

The U.S. argued that the tuna embargo fell under the jurisdiction of "National Treatment of Internal Taxation and Regulation" a provision which allowed for the use of internal measures so long as these treated both domestic and international products no differently. Article III, paragraph 4, provides that:

> The products of the territory of any contracting party imported into the territory of any other country shall be accorded treatment no less favourable than that accorded to like products of national origin in respect to all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use.[258]

This article when read in conjunction with Ad Article III,[259] at least by implication, provided permission for parties to the General Agreement to impose laws and regulations upon imported goods so long as the treatment given was no less favourable than that afforded to like domestic goods.[260] Mexico did not disagree that the U.S.'s actions were consistent with this article. It argued instead that acceptance of the U.S.'s regulations as an Article III regulation did not exempt it from complying with the Article XI requirements regarding "General Eliminations of Quantitative Restrictions".

Article XI, paragraph 1, simply reads that:

> No prohibitions or restrictions other than duties, taxes or other charges, whether made effective through quotas, import or export licenses or other measures, shall be instituted or maintained by any contracting party on the importation of any product to the territory of any other contracting party

The dilemma for the Panel thus was the characterisation of the U.S.'s action as either a "quantitative restriction" under this article or an "internal regulation" as per Article III, and the relationship between these two provisions. In this regard Mexico argued simply that these two articles were in fact not, as the U.S. had presumed, mutually exclusive.

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258 Protocol Modifying Part II and Article XXVI of the General Agreement on Tariffs and Trade, (1948), article III, para 4, (T.I.A.S. 1890, at 4).

259 Ad Article III reads

> Any internal tax or other internal charge, an any law, regulation or requirement of the kind referred to in [Article III, para. 1] which applies to an imported product and to the like domestic product and is collected or enforced in the case of the imported product at the time or point of importation, is nevertheless to be regarded as an internal tax or other internal charge, or a law, regulation or requirement of the kind referred to in [Article III, para. 1], and is accordingly subject to the provisions of Article III.

*Ibid*, Ad article III, para. 4.

260 Spracker, S. and Lundsgaard, D., "Dolphins and Tuna: Renewed Attention on the Future of Free Trade and Protection of the Environment" (1993) 18 *Colombia Journal of Environmental Law* 385.

The panel found in Mexico's favour. To so do it made a critical and significant distinction between the regulation of a product per say, and the regulation of the process by which the product emerged.[261] The panel took a literal reading of the GATT and held that Article III could only pertain to a product *qua* product and not the process by which such was made. As such tuna was tuna regardless of the catch method and the U.S.'s ban on the Mexican product was in relation to the process rather than the product itself. Hence the U.S.'s extraterritorial application of the MMPA was found to be inconsistent with Article XI's prohibition on quantitative import restrictions. As one author has stated:

> in other words, the panel ruling means that Mexico can produce tuna in any way it pleases, even by injuring marine mammals, and the United States may not regulate the tuna unless the regulation focuses on some characteristic of the final product.[262]

The second contention the U.S. raised was that the Article XX exemptions validated its embargo of tuna caught in association with dolphins. Because the nature of Article XX is that of an exemption, the burden of proof rest upon the party who is asserting its relevance.[263] An earlier panel report had held that the purpose of Article XX exceptions is to "allow contracting parities to impose trade restrictive measures inconsistent with the general agreement to pursue overriding public policy goals to the extent that such inconsistencies were unavoidable."[264] The U.S. argued that the ban was justified by Article XX and drew upon sub sections (b) and (g) which read as follows:

> Subject to the requirements that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ....
>
> (b) necessary to protect human, animal or plant life or health: ....
>
> (g) relating to the conservation of exhaustible resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.[265]

In terms of the first, the panel found that in order to restrict the GATT's application those aspects of health and safety under consideration must occur within the jurisdiction of the party invoking the exception. This Article has historically been

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261 See *ibid* for discussion of the significance of this decision.

262 Kubasek et al (1995) *op. cit.* n257 at 16.

263 Canada - Administration of the Foreign Investment Review Act, in General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents, 30th Supp., 140, 164 (1984).

264 Thailand - Restrictions on Importation of and Internal Taxes on Cigarettes, in General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents, 37th Supp., 200, 223 (1990).

265 GATT, Article XX.

interpreted narrowly, and this panel interpretation followed in accord.[266] The concern of the panel was that extraterritorial application of subsection(b) may lead to the use of trade sanctions to unilaterally regulate health and safety in other jurisdictions. It further held that with regard to the tuna embargo, the extraterritorial application of health and safety concerns would not meet with the requirement of necessity due to the lack of all other options available to the U.S. (such as multilateral negotiations) not having been exhausted.[267]

Not dissimilar was the panel's evaluation of subsection(g). It held that the exception could not be employed to justify measures designed to protect natural resources that existed outside of the jurisdiction of the party involved, that is beyond the 200nm EEZ. As with sub section(b) it held that allowing such action may provide for unilateral control of the commons or of another sovereign jurisdiction's policies, this time in relation to conservation. Secondly, the panel in considering XX(g) highlighted the precedent which required that measures justifying its use be "primarily aimed" at the conservation of the resource in question: that is tuna, not dolphins. [268] Moreover it found that in relation to the U.S. ban on tuna the embargo was based on a highly variable data and that given this, the embargo could not be primarily aimed at conservation. Indeed the panel seemed to be of the opinion that the import ban was more to do with trade protection than conservation.

These decisions have been widely criticised by conservationists and academics alike. Criticisms have been both in terms of the potential impact of this decision on the sovereign rights of a nation to ban certain produce from entering its territory, and the health and environmental repercussions which may stem therefrom. The panel did note that its review was limited in scope, confined to the relevant provision of the GATT, and was not a statement on the relative merits of American and Mexican conservation policies.[269] It also stated that the labeling provisions of the U.S. DPCIA were not inconsistent with the General Agreement because any adverse effect that may be felt by imports that failed to meet dolphin-safe criteria would be caused by consumer action rather than the provision of the Act.[270]

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266 Canada - Measures Affecting Exports of Unprocessed Herring and Salmon, in General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents, 35th Supp., 98, 114 (1988).

267 Panel Report *op. cit.* n256 at 1620.

268 Canada - Measures Affecting Exports of Unprocessed Herring and Salmon, in General Agreement on Tariffs and Trade, Basic Instruments and Selected Documents, 35th Supp., 98, 114 (1988).

269 Panel Report *op. cit.* n256 at 1622.

270 *Ibid.*

Secondly several of the bases for the panel's decisions have been questioned. Cited as a "slippery slope" argument,[271] the contention that extra-jurisdictional applications would undermine GATT has been criticised as misplaced due to panel's failure to distinguish between the application of GATT in another nation's jurisdiction and its use in the global commons. Additionally the panel's narrow interpretation of Article XX was deemed ingenuous in its failure to consider the potential impact of the even broader exception of Article XXI relating to self-defense and which defers almost complete judgement to the invoking party.[272]

The U.S.'s response to the tuna-dolphin decision was, rather than adherence to the GATT panel's decision, one of defiance. Congressional leaders announced that trade sanctions would remain an integral part of the nation's domestic legislation.[273]

The panel decision meant that if the GATT Council adopted the ruling then punitive tariffs would be imposed upon U.S. exports to Mexico. Following the decision though two other conditions had to be satisfied before such measures could be taken. The first was that the plaintiff had to pursue the decision so as to have it adopted. This was an action that Mexico chose not to take.[274] Mexico's hesitancy in pursing the matter before the Council of Representatives was due primarily to its fear of disenfranchising the U.S.[275] — at the time of the Panel decision Mexico was participating in ongoing North American Free Trade Agreement (NAFTA) negotiations, which would open to Mexico a $US6 trillion North American market. This was seen by the Mexican President Carlos Salinas de Gortari as the best chance for alleviating Mexico's "nagging inflation rate, widespread unemployment, poverty and mounting trade imbalance".[276] Not only would failure to have secured the NAFTA agreement been bad for the country but would have significantly damaged President Salinas' personal reputation and that of his party in the 1994 Mexican Presidential elections.

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271 Alker (1996) *op. cit.* n194.

272 Jackson, J., The World Trading System: Law and Policy of International Economic Relations (1989) cited in Alker (1996) *op. cit.* n194 at 205.

273 On 21 November 1991 in response to the tuna-dolphin decision, the House majority leader Richard Gepphardt and 21 co-sponsors introduced a resolution stating that Congress would not approve enabling legislation for the free trade agreement with Mexico and the GATT Uruguay round if the agreements jeopardised the America's health, safety, environment or labor laws. H.R. Res. 246, 102d Cong. 1st Sess. (1991). See "Waxman Measure Urges Administration to Safeguard U.S. Laws in GATT, FTA" (1991) 8 *International Trade Reporter* (BNA) 1740 (27 November 1991).

274 "GATT: Mexico agrees to Defer Action on complaint on U.S. Tuna Embargo" (1991) 8 *International Trade Reporter* (BNA) 1351 (18 September 1991). Note also that the EU has continued to press for the adoption of the report on the grounds that it affects the interpretation and hence relationships between the environment and trade, for example see "EC and other Delegations Push for Adoption of GATT Tuna-Dolphin Panel" *Inside U.S. Trade* (21 February 1992).

275 Charmovitz, S., "Environmentalism Confronts GATT Rules: Recent Developments and New Opportunities" (1993) 27 *Journal of World Trade* 35.

276 "Can Mexico Clean Up Its Act?" *L.A. Times*, 17 November 1991.

> Mexico's fate when it brought the tuna-porpoise controversy to a General Agreement on Tariffs and Trade (GATT) panel, won, and then was forced to suspend any further action in order not to have the issue brought into the North American Free Trade Agreement (NAFTA) debate. The diplomatic and economic weight of the United States prevailed.[277]

In what seemed in the wake of the decision to be the least likely outcome, the GATT case appears to have inadvertently promoted the protection of dolphins. Subsequent to the decision Mexico and the U.S. entered into bilateral negotiations. On 24 September 1991, following the Panel Report's release, President Salinas announced the initiation of a ten-point program designed to protect dolphins. Although not banning the use of tuna purse-seiners in the ETP, it did mandate two significant policy changes. International observers were to be placed on all of Mexico's tuna boats, as compared with the previous arrangement of only one third coverage.[278] And secondly, President Salinas allocated $US1 million for research into dolphin-safe fishing practices.

In July 1992 the European Community (EC) filed a formal complaint at the GATT council regarding the lack of adoption of the tuna-dolphin panel decision. At a hearing before the council the EC and twelve other nations argued that, as a matter of principle, and regardless of the parties' desires, the panels decision should be adopted.[279] At the behest of both the U.S. and Mexico however the EC's motion was denied.[280]

Had the EC been successful or Mexico requested adoption of the report then the U.S. had several options it could have pursued. The first was to vote against the ruling and hereby invalidate it. The GATT Council is composed of all the governed nations and any single nation has veto power in relation to the accepting of a panel ruling. The risk involved in so invalidating the ruling was that other countries adhering to GATT rulings in the favour of the U.S. could hence also refuse their restrictions. The second option open to the U.S. was to amend the MMPA provisions regarding the embargo so as to make them comply with the ruling. Even though the MMPA trade sanctions had

277 Hurwitz (1995) *op. cit.* n231 at 524.

278 "Tunaboat Turnaround: Mexico Announces a Dolphin Protection Plan" *L.A. Times*, 25 September 1991.

279 The other nations were Argentine, Canada, Peru, Japan, Colombia, Senegal, South Korea, New Zealand, Pakistan, Brazil, and Hong Kong. See "EU Urges Adoption of Tuna Report but U.S. Mexico Claim Accord is Near" (1992) 9 *International Trade Report* (BNA) 524 (25 March 1992).

280 "GATT Council Refuses EC Request to Adopt Panel Report on U.S. Tuna Embargo" (1992) 9 *International Trade Reporter* (BNA) 353 (26 February 1992).

been found to violate the GATT they remained valid under U.S. law.[281] As discussed though Congress was unwilling to relax the U.S.'s import restrictions.

## The LaJolla Agreement & the IDCP

By 1988 many foreign tuna vessel owners had recognised that the issue of dolphin bycatch was significant and was not going to dissipate on its own. They clearly conveyed their message to the skippers of their vessels, that current practices needed to be changed.[282] Also in response to the dilemma in the ETP, nation States began negotiations in 1990. Initially Mexico had refused to participate in the negotiations that were run by IATTC which Mexico was not a member of. It did, however, attend as an observer. In January 1991, ten ETP nations concluded and, by 1992 had signed, the LaJolla Agreement. Mexico did not initially join the agreement, however with the renewed U.S.-Mexican relations that had formed in the wake of the GATT tuna-dolphin decision, Mexico later assumed a lead role in the construction of ETP arrangements. This voluntary, non-binding agreement established the International Dolphin Conservation Program (IDCP) as the means of implementation. The intent of this Program was to provide strong comprehensive dolphin protection, and to limit dolphin mortalities to very small numbers.[283]

The LaJolla Agreement consisted of five parts. The two key elements were the requirement for an observer on every vessel,[284] and individual dolphin bycatch quotas allocated to individual fishing vessels within the international fleet as part of a strict overall annual dolphin mortality limit. Several environmental groups strongly opposed the quota arrangement stating that any dolphin mortality in the fishery was unacceptable. Under the LaJolla Agreement the following allowable dolphin bycatch levels were established and recorded in a Schedule of progressively decreasing annual limits as follows:

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281 Congress has the power to abrogate treaty obligations by enacting a more recent statutes, so long as the intention of the new law is clear. Had Congress intended the MMPA sanctions to be limited by the GATT this would have been specified therein.

282 Per. comm. Dr Martin Hall *op. cit.* n199.

283 See *Summary Minutes of the 50th Meeting of the Inter-American Tropical Tuna Commission, 16-18 June 1992* (IATTC, LaJolla, 1992) Appendix 10.

284 This applies from 1 January 1993, to every vessel greater than 400 short tons carrying capacity.

| year | total dolphin bycatch |
|---|---|
| 1993 | 19,500 |
| 1994 | 15,500 |
| 1995 | 12,000 |
| 1996 | 9,000 |
| 1997 | 7,500 |
| 1998 | 6,500 |
| 1999 | <5,000 |

The total quota was to be divided each year between those vessels intending to fish for tuna in association with dolphins, so long as those vessels met certain conditions such as the education and training of key crew members, and possession of equipment enabling the unharmed release of captured dolphins. Vessels applied for allocation of individual dolphin mortality limits (DML) to be calculated as fraction of the total allowable bycatch, the individual allocation thus depending on the number of applications. Once a vessel reached it's individual quota or DML it was no longer permitted to fish for tuna in association with dolphins. This method of allocation of annual quotas by a central body, to individual vessels, was an entirely new mechanism in international fisheries management.[285] It was perhaps the administration of this scheme however that has had the greatest impact on its success. That is, utilising the highly competitive nature of most fishers, slowly has created an atmosphere wherein low dolphin take is a sense of pride and a highly sough after accolade by most vessel captains.[286]

The first of the remaining three parts of the agreement was the establishment of an International Review Panel to meet tri-annually and report on the compliance of the international fleet and individual vessels with the LaJolla Agreement. A process of infractions was potentially fraught with a variety of shortcomings. Perhaps the most serious of these was the potential of backdoor deals to be done between nations. To counter this two steps were taken, the first was that vessels would be judged with anonymity and as such a nations would not be able to favor its own vessel, and secondly that NGOs be present whilst infraction were being discussed.[287] Thus the

285 Joseph (1994) *op. cit.* n199 at 11.

286 The scheme is run such that all the vessels are ranked in terms of their cetacean bycatch level. The rank of each individual vessels is revealed only to the captain of that vessel, along with information as to why the take was at a particular level and how this could be improved. Although being informed privately as to the comparative performance of the vessel it has become "a source of pride to beat the others and a source of shame to do badly". Per. comm. Dr Martin Hall *op. cit.* n199. Similarly the role of moving dolphins from the net, once a task given to the laziest on the vessel, has become a role of increased status.

287 This was initially met with considerable resistance but was eventually approved by participant nations. Per. comm. Dr Martin Hall *op. cit.* n199.

Panel was comprised of government, fishing industry and NGO representatives. A second body composed from essentially the same groups, was a Scientific Advisory Board designed to assist the director of the IATTC in his efforts to coordinate, facilitate and guide research. The La Jolla Agreement hence also called for a comprehensive research program designed to improve purse seining technology to allow for further reduced dolphin mortality incidental to tuna fishing, and the development of alternate methods of yellowfin tuna fishing which is not in association with dolphins.

The IDCP was boosted by genuine U.S. support. This was made possible because of the LaJolla agreement's consistency with the objectives of the MMPA regarding international cooperation, in particular in the ETP aimed at the conservation of marine mammals, the use of best practice technology, and further research efforts into less impactive fishing methods. Moreover, the U.S.'s determination to conclude and implement a negotiated agreement had intensified in light of the August 1991 GATT reprimand for its lack of effort to find a consensus solution to the tuna-dolphin dispute.[288]

Subsequent to the conclusion of the LaJolla Agreement due to the problems associated with the U.S.'s inability to provide for relief from embargos, the Bush administration even prior to a finalised agreement sought from Congress amendments to the MMPA. The *International Dolphin Conservation Bill* was introduced into the U.S. House of Representatives. This closely resembled an earlier moratorium bill which had been rejected by Congress.

## U.S. Legislative Action to Further Protect Dolphins

The *International Dolphin Conservation Bill* had two primary aims. The first was to resolve the dispute with Mexico and Venezuela on whom, notwithstanding the LaJolla Agreement, the U.S. had import embargos placed. The second intended a remedy the disparity between the 27,000 dolphin kills each year in foreign waters, and the MMPA's zero mortality goal. The Senate Committee on Commerce Science and Transportation was presented with a choice between two different approaches to effect a reduction in foreign fishing fleet dolphin by catches. The first option was a global moratorium on the setting of purse seines on dolphins, and the alternative the La Jolla Agreement of incremental reductions in permissible dolphin mortality.[289] The

288 As noted by Charmovitz thought the panel remained silent on Mexico's refusal to participate in and "stonewalling" of the regional negotiations. Charmovitz (1993) *op. cit.* n275.

289 Letter from Senator Ernest F. Hollings, Charimean, U.S. Senate Committee on Commerce, Science and transportation, to Dr. James Joseph, Director, Inter-American Tropical Tuna Commission, 15 July

*continued over page*

U.S. administration supported the moratorium bill and indicated that the governments of Mexico and Venezuela had also agreed to support it in exchange for a lifting of their import embargos.[290]

Two disparate schools of thought emerged on the preferred form the Act would take. On one side were a portion of U.S. environmental groups, the U.S. Congress and U.S. cannery companies, and on the other the Bush administration, moderate environmental activists and the Mexican government and Mexican fishers.[291]

Perhaps most curious in these alliances appears the positioning of the NGOs. Mexican groups were by and large silent on the issue, which could be attributed to three factors: a little reported fallout between many U.S. and Mexican NGOs due to perceived discrepancies in their interests; the political situation in Mexico whereby the Salinas government had successfully disempowered these groups; and concern over loosing its support base by condoning the sensitive the issue of U.S. policing of Mexican fishers. In the U.S. the internal split in environmental groups stance was more directly related to the issue at hand. Those NGOs, such as EII, that favoured the embargo viewed Mexican efforts as superficial. Further they claimed that the Mexican tuna industry would not suffer financial loss from improved use of and care taken with gear, and hence there was no valid reason for its resistance to the moratorium.

On the other hand "anti-embargo environmentalists" opposed the arbitrariness of the comparability provisions, whereunder foreign fleets were required to assume a take level based on the actual U.S. dolphin bycatch rate, rather than the legal level of 20,500.[292] Further groups such as Greenpeace contend that setting on dolphins also occurs in the Western Pacific Ocean, and thus the U.S. moratorium on setting on dolphins in the ETP was unjust.

The Mexican government and Mexican fishers agreed with the views of the anti-embargo environmentalists, however pointed more stringently to the non-endangered status of the dolphin. They ultimately saw the conflict as a human versus dolphin trade-off. Moreover they felt that the economic symmetries between the U.S. and

1992, cited in Joseph (1994) at 12. See generally Joseph (1994) *op. cit.* n199 at 17-25 for a detailed discussion on the benefits and problems of each option.

290 These nations later issues statements dening such agreements had been forthcoming. See Letter form Ministerio de Agricultura y Cria, Republic of Venezuela, to James A. Baker, III, U.S. Secretary of State, July 22, 1992; Communique of the Secretaria do Relaciones Exteriores de Mexico, "Mexico en Favor De una Defensa real y Eficaze de los Delfines" (Tlotelolco, Mexico, october 31, 1992); reported in Joseph (1994) *op. cit.* n199 at 12.

291 Hurwitz (1995) *op. cit.* n231 at 510.

292 Greenpeace, Dolphins, Tuna and Free Trade: A Greenpeace Perspective 3 (1992), cited in *ibid* at 517.

Mexico had not been adequately addressed or considered in the imposition of U.S. requirements on their poorer southern neighbours.[293] The Mexican government was supported in its stance by the Bush administration who actively opposed the placement of embargos on Mexican tuna imports. The executive's opposition to the embargos stemmed primarily from the surrounding political climate: NAFTA negotiations were ongoing and the U.S. was actively seeking Mexican support and participation therein. Moreover the U.S. was realising an increasing interdependence and an enhanced desire for cooperative approaches to regional problems. Indeed keen to foster good will between the two nations, when the U.S. government lost the EII litigation it was reported to have told the Mexican government that it would "get the dolphin protection law weakened".[294]

The U.S. Congress was, however, of a very different view. Both Congress and the U.S. cannery companies had faced the public outcry from the strong NGO push which led to the introduction of dolphin-safe tuna products. For political and economic reasons the public sentiment was sufficient to gain the support of both these groups for a moratorium on the importation of tuna caught in association with dolphins.

The Bill passed thorough the Senate on October 8, in the final hours of the 1992 Congressional session, and became the *International Dolphin Conservation Act* (IDCA).[295] The IDCA amended the MMPA to add Title III as part of a compromise between the Bush Administration and environmental groups. The plan was quickly introduced into Congress. Title III allowed for the resolution of the tuna-dolphin issues outside of the MMPA framework, and hence isolating the tuna-dolphin controversy from the general workings of the Act.[296]

The IDCA provided that U.S. fleets were not to take more than 800 dolphins between 1 January 1993 and 1 March 1994. The Act then established a five year moratorium on the encirclement of dolphins in purse-seine nets, to take effect also on March 1 1994. Internationally it authorised the Secretary of State to negotiate the said global moratorium on the setting of nets on dolphins, and imposed strict non-discretionary embargos upon those nations who failed to comply therewith. These included broad fish product sanctions, that it was estimated were worth $US100 million annually to Mexico alone.

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293 *Ibid.*

294 "Dolphins, Tuna and Free Trade" *Washington Post*, 19 October 1991.

295 *International Dolphin Conservation Act* of 1992, Pub. L. No. 102-523. 106 Stat. 3425.

296 Kubasek (1995) *op. cit.* n257.

Included in the IDCA however was the caveat that the moratorium would not become active unless at least one other major fishing nations agreed to comply therewith. The Act then offered that general embargos in place under the MMPA would be lifted from nations who agreed to these provisions of the IDCA. Those nations that had not made such a commitment by 1 March 1994 were hence subject to embargo.[297]

Although Mexico and Venezuela initially indicated they would implement the U.S.'s moratorium provisions, they later withdrew this support and instead participated in the dolphin protection program created under the auspice of the IATTC. The cooperation of Mexico or Venezuela, the two extant embargoed nations, was of particular significance given the provision in the Act whereby the moratorium is not activated until at least one other major tuna fishing nation (that is with in addition of a 20 vessel fleet) agrees to comply with it.

Several of the provisions contained in Act were however to apply regardless of agreement from any other major fishing nation. These included the requirement for observer presence on all vessels where it was determined that there was a regular and significant interaction between fishing operations and marine mammals, and a ban on the encirclement of eastern spinner and coastal spotted dolphins. Moreover a prohibition was placed on the sale, purchase or transportation of tuna caught in association with dolphin by U.S. citizens.

Finally, the Act provided that if the moratorium was effected then the mortality limit of 20,500 dolphins and the exemption granted by the MMPA authorising such vessels to fish, would be revoked. If the moratorium fails to be activated then the exemption would remain in place until December 31 1999, although the limit would be reduced.

## Concluding Comments

To recall Congress was motivated in 1988 to amend the MMPA so as to impose embargos on foreign fishing fleets operating in the ETP fishery that did not meet U.S. standards in their dolphin conservation efforts. As with previous similar laws, the reason behind this was twofold: firstly because of the continuing impact that dolphin bycatch by foreign fleets was having on the U.S.'s efforts to reduce dolphin mortality. Secondly Congress was concerned that U.S. vessels were being disadvantaged by the competitive edge that foreign vessels had by not needing to comply with the relatively stringent conditions imposed on domestic operators. Combined these motivated strong

297 A caveat was added to the effect that this blanket ban on all fish products would only be up to 40% of the aggregate value of such products. This figure was chosen so that in the event of an embargo due to the dolphin issue, Mexican shrimp imports would not be affected. Joseph (1994) *op. cit.* n199 at footnote 52.

domestic support from both fishers and conservationists. These and various other interests (e.g. labor unions, consumer protection advocates) formed a strong coalition and ensured that Congress's commitment to reducing dolphin bycatch and leveling the domestic/foreign fishing playing field did not waver.

Once again, as had occurred with section 609 shrimp import restrictions, the U.S. bureaucracy wavered in its application of sanctions on foreign nations. Litigation proved a useful tool for NGOs in their efforts to have the laws applied as Congress had intended. A series of judicial determinations found unanimously for the plaintiff and each required incremental steps towards the full implementation of import restrictions.

Unsurprisingly embargoed nations were unhappy with the new requirement placed upon them. Mexico took its grievance to the GATT panel for adjudication who found for the plaintiff that the U.S. had indeed violated the GATT. The reaction from the two primary litigants was interesting. The U.S. Congress was almost uninterested in the decision, and vowed to continue with the application of the embargo. Mexico decided not to have the decision adopted, thus making it neither binding to the U.S. nor allowing for its reliance upon as a precedent in subsequent cases. Mexico's reasons were to do with other negotiations, in particular the NAFTA, which were ongoing at the time. Indeed it can be mused as to whether Mexico ever intended to have the decision adopted or was simply hoping for additional bargaining leverage with the U.S. in other forums.

With both nations keen to seek an amicable solution to the tuna-dolphin controversy plaguing the region, a multilateral arrangement under the auspice of IATTC was formed. It is conceivable that the La Jolla Agreement would not have come about had the U.S. not launched its unilateral restrictions. Thus suggesting that these internationally illegal actions, were a necessary catalyst to the formation of a negotiated regional agreement.

Regardless of U.S. participation in and condoning of the agreement, domestically once again the issue became contentious. The need for the U.S. to give legislative backing to both the agreement and a promise to remove sanctions from those IATTC nations participating in the IDCP, brought the issue of the conflict between quota arrangements and the MMPA zero mortality goal into the limelight once again. The MMPA still had a 20,500 dolphin bycatch limit, but with the introduction of labeling legislation the actual U.S. take was near nothing. Thus lobbying for a moratorium on driftnetting on the high seas was pursued by NGOs, with effectively no domestic fishing opposition. This position was actively opposed by the government. A strange compromise was reached, and in the end the moratorium was never activated.

## 4.8 Concluding Comments to Chapter 4

### Domestic Factors

The big picture with respect to federal political machinations is difficult to see when concentrating on a single issue area such as bycatch. This discussion is more likely to contribute meaningfully as part of a wider body of literature on the Reagan/Bush era. With regard to the oceans however the downsizing of the service and the loss of the leadership of several strong proponents in Congress contributed to the reduction of the issue's prominence and attention through this period. Indeed it can be observed that very few new laws were enacted, as Congressional efforts were directed towards preserving existing schemes and infrastructure, though existing statutes were reauthorised and amended.

Though not intended merely to comply with the Reagan policy of small government, the one major domestic legislative alteration of the 1980s was the 1988 MMPA where virtually all restrictions on bycatch were removed. This is a notable exception to he incrementalism and administrative alterations to the era due a mention here in that it was perhaps passed because of its complementarity with the policy of the day.

Notwithstanding these limitations several domestic patters are clearly observable. One of these was the conflict that emerged domestically as a part of the move to downsize government.

Two of the case-studies in this chapter, TEDs and driftnetting, demonstrate the power of a unified domestic stance on foreign policy. Litigative action by fishers and NGOs removed foreign driftnet fishing in U.S. waters. Building on this environmentalists used community opinion as a disincentive to prevent opposition to the driftnet initiatives from the Reagan administration. Thus no particular position was taken by the Executive or Congress and the outcome left up essentially to one representative from Alaska to influence.

In the international application of TEDs, fishers and NGOs again had a joint position: they wanted foreign shrimp imposts caught by methods involving sea turtle bycatch prohibited. Distinct from the driftnet case though, Congress took an active role in the enactment of section 609. As was reported

> [a] broad spectrum of U.S. political constituent groups, including environmental organizations, commercial and recreational fishermen, labor unions, consumer protection advocates, and others, perceive such sanctions as the most effective, and perhaps in some cases the only

> feasible method to get foreign nations to alter their behaviour. The use of unilateral trade sanctions also has a broad support in Congress.[298]

Action subsequent to the enactment of section 609 well reflects how agency opposition to a policy can impact upon its implementation. Section 609 was interpreted to apply only to specific nations, and even then was not actively applied. Moreover, in the application of domestic turtle bycatch policy, as well as the international application of tuna-dolphin laws, the implementing agency can be seen to act in contempt of Congressional edicts, a view confirmed by the courts in their strict interpretation of these laws.

Finally the role of individuals can be seen clearly through the discussion of the turtle case. Firstly in the form of Tee John Mialjavich who resisted pressure to become signatory to the initial NGO industry negotiations and later led the resistance to TEDs. And second, in an examination of the role of the Secretary of Commerce under the Bush administration. Originating from Texas and with obvious sympathies towards the fishers light Mosbacher had a considerable input into and impact on the progress of TED policy. Interestingly although these two men stood out in the discussion on the development of TED policy, both assumed positions in opposition to the eventual policy that was implemented. Thus it could be suggested that an individual may have a significant role with respect to a policy however if this runs in the face of majority opinion it is likely to do little more than delay the inevitable. In comparison with these examples, Senator Ted Stevens from Alaska actively promoted the prohibition of driftnets and was indeed instrumental in the generation of U.S. support, and the creation of such a policy internationally.

### International Influences

In general the Reagan era has been noted for its pull away from international leadership. This was not however witnessed in the issue area of bycatch policy.

The first major move was the U.S.'s involvement in the banning of a particular fishing method in order to protect stocks. The driftnet ban represented an international campaign to reduce the bycatch of a range of species through multilateral pressure on the distant water fishing nations. Although not binding by international law the UNGA driftnetting resolutions served to provide an indication of the consensus view and hence to isolate and put pressure on nations that fail to conform.

298 Iudicello and Lytle (1994) *op. cit.* n53 at 142-143.

The other source used was unilateral trade sanctions. Enacted in 1971 the Pelly Amendment is unique within the U.S. system because it allows sanctions to be invoked under a number of other statutes — in effect acting as a supplementary procedural mechanism for other marine conservation statures. Unlike other statutes it had not been challenged under the GATT as it had never actually been enforced, the threat of certification being sufficient to garner action from a recalcitrant nation.

On the two occasions where trade sanctions were invoked, the tuna-dolphin and international aspect of the turtle-shrimp issues, Congress had been heavily influenced by a strong domestic coalition. A powerful coalition of commercial and recreational fishers, animal protection and environmental organisations, labor unions and consumer protection bodies have encouraged the use of trade embargos as an effective means of both broadening environmental protection and of leveling of the playing field.

The ESA itself does not provide for the issuance of trade sanctions upon nations that do not comply with its provisions. Remedies contained therein are restricted to criminal and civil proceedings. However when a problem of a market advantage for foreign importers due to the imposition of strict environmental conditions upon domestic shrimpers arose, trade sanctions were invoked by Congress as the means by which to equalise this situation. It is likely that this instrument was chosen due to the familiarity of the tool.

The international community has not appeared nearly so enthusiastic. Dispute panel action under the GATT has appeared openly hostile to the use of trade sanctions to achieve environmental goals. Moreover, international pressure on the Bush administration to be lenient with its application of embargos, and this led to its refusal to sanction nation's fish products until forced to so do by the courts.

Notwithstanding international displeasure with the U.S.'s use of sanctions they have been effective in some cases in propelling an issue to the limelight and even in creating multi lateral negotiated regimes for their management.

## The Impact of NGOs

The activism with regard to the international banning of driftnetting on the high seas was prompted by NGO action in particular by Greenpeace, and a consequential upsurge of public opinion against driftnet fishing. The media was thus used as a means of stifling the Reagan Administration's opposition to the progress of the driftnet initiative. Although having some involvement in multilateral negotiations, NGO actions were by and large still restricted to the domestic arena as these organisations were not seen as having an international personality.

Through the 1980s NGOs often relied upon judicial determinations based upon enactments of the previous decade. This was due to an unsympathetic attitude in Washington, and the stalemate that had developed on particular issues within many government departments. Indeed many of the developments in the international arena with respect to the application of unilateral trade sanctions would not have occurred with out persistent NGO intervention.

The other significant contribution of the 1980s made by NGOs was the employment of market incentives to encourage more environmentally friendly production habits. This, along with the use of litigation, and greater contribution to scientific debates, reflected increased innovation within NGOs. This realisation of the need for a broader set of tools with which to address environmental issues, also reflects a maturation of these organisations. These have well equipped them to better manage the complexity of issues that arose in the 1990s. Without such developments the continued input of such organisations may well have been in significant jeopardy.

## The Role of Science

In the case of driftnet fishing in the North Pacific science was used to validate what were ostensibly political choices of policy, rather than these policy decisions being steeped in rigorous science. The timely communication of scientific information to decision makers had little bearing on the policy to ban driftnet fishing. Science, is only one of many factors which inform decision makers when choices of policy are involved. In terms of the international driftnet ban, science was used by and large as a supporting, not determining, mechanism. The debate was not centered around conclusive evidence, but rather revolved around political and emotional considerations.

Rather than being successfully manipulated by one party as occurred in the driftnetting scenario, and bringing closure to the issue, the inadequacy of scientific data was realised by the protagonists to change: in this case domestic shrimp fishers. Thus in the turtle-shrimp debate scientific uncertainty was harnessed by both parties to the dispute, often causing a stalemate to develop. This lasted several years, and politics once again became the main factor in the progress of the policy. The solution to this unpalatable situation in which any decision was difficult to defend, was the sequestering of an independent report into the statue of sea turtles and the extent of impact that shrimp trawling had upon them. The need for this information was apparent. Both parties strongly believed in the validity of their evidence, though one was more scientific and the other more anecdotal.

Unexpected though they were, when the result did not meet one party's expectations, rather than graciously accepting defeat, the report was then targeted for bias. By this stage however scientific evidence was solid enough that policy development went ahead regardless of the dissenting voices. The turtle-shrimp controversy at the domestic level well reflects how scientific uncertainty can be used to delay action as well as to progress the formation of a particular policy.

The question then arises as to why the shrimp fishers were so well able to utilise the uncertainty, when DWFNs in the driftnet dispute were not, even though they perhaps had a much more solid scientific basis for dissent. The answer perhaps relies upon the forum in which the issue was discussed. Early on in the process the U.S. government raised the issue of driftnetting at a FAO meeting and it was promptly referred to the fisheries branch of the organisation. Later the South Pacific nations raised it in the UN, that it was accepted there reflected that it had clearly become a political issue and, in that, a political decision. Thus, regardless of the evidence and of Japan's efforts to ensure the decision was based upon scientifically formed opinions, a decision made in the UNGA was always going to be primarily political. By comparison the framework for the determination of the sea turtle issue in the U.S. was the ESA. To recall formed soon after a burst of scientific interest in the U.S. this statute relied heavily on the status of the species and the abatement of threats thereto. Thus science was to be much more contention and the justification for actions much more rigorous.

# Chapter 5 -
# U.S. Bycatch Policy: 1992-present

## 5.1 Introduction

By the 1990s, fisheries related environmental concerns had risen to the top of the political agenda in the U.S. and many other countries, and hence had become a major consideration in international relations. In this regard, and in contrast to the domestically progressive 1960s and 70s, in the late 80s and early 1990s advances in marine and environmental policy more often occurred at the international level.[1]

One of the primary forces behind the globalisation of environmental issues was a growing realisation of the interrelated nature of many natural resources and associated management problems. In response to increased internationalisation, environmental NGOs assumed an expanded role as they become significant players in the diffusion of new principles and norms: both between international regimes, and between the national and international levels.[2] This increased involvement was facilitated by four changes in the characteristics of global policy-making and of international NGOs. These are:

- increased networking by and between NGOs, in part a reflection of global shrinkage and advances in communications technology;
- greater transparency in international negotiations and easier access to the diplomatic process;
- the greater frequency with which NGO representatives were included in national delegations; and
- the increased sophistication of NGOs in the disciplines of science, law, economics and politics, hence providing them with greater net bargaining power through an increased role as a provider of information in complex policy debates.

The 1990s have also been labeled as the post-modern era, where politics can be characterised as an "expression of societal fragmentation and [reflected by the] erosion of the nation-state as the most legitimate unit of action".[3] This too has allowed for the elevation to prominence of other levels of political action and the multiplication of political action units such as NGOs.

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1 Knecht, R., "Essay: Emerging International Goals and Principles and their Influence on National Ocean Governance" (1994) 22 *Coastal Management* 177.

2 *Ibid.*

3 Finger, M., "NGOs and Transformation: Beyond Social Movement Theory", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics: Linking the Local and the Global* (Routledge, London, 1994) pp. 48-68 at 61.

In the U.S., after 12 years of Republican Administration, the return of a Democratic President and the appointment of a Vice President renowned for his environmental credentials,[4] brought with it high hopes for the conservation movement.[5] In the period of the 103rd Congress however, many of these hopes failed to be realised. Indeed one government official commented that the White House's main interests have been in terms of 'big picture' issues such as climate change, to the neglect of other concerns.[6] An alternative explanation refers to the evolution of environmental issues to a 'second generation' of more complex and costly problems that have little to capture Congress's imagination. Notwithstanding a lack of legislative action, there does however appear to have been a movement into government of many NGO representatives, portending improved implementation of existing laws.[7]

The 1990s also saw a new approach to science and the issue of uncertainty. Ecologically sustainable development (ESD) emerged as a governing principle of resource management, and within this framework a precautionary approach to natural resource decision-making was promoted.[8] The precautionary principle recognised that science can not provide clear policy prescriptions and that criteria need to be developed to systematically address resultant uncertainty.[9] The benchmark that was designated appropriate, was that where there are threats of serious of irreversible environmental damage, a lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. This infiltrated fisheries management at both the national and international levels.[10]

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4 Indeed Al Gore had written a book entitled Gore, A., *Earth in the Balance : Ecology and the Human Spirit* (Houghton Mifflin, Boston, 1992).

5 Kitsos, T., "The Clinton Administration, the 103rd Congress, and Environmental Policy: Strange Things are Happening", in Cicin-Sain, B. and Leccese, K. (ed), *Moving Ahead on Ocean Governance - Roundtable Summaries* (Center for the Study of Marine Policy, Graduate College of Marine Studies, University of Delaware, Newark, Delaware, 1994) pp.25-29.

6 Per. comm. confidential source.

7 Hewison, G., "The Role of Environmental Non-Governmental Organisations", in Mensah, T. (ed), *Ocean Governance: Strategies and Approaches for the 21st Century* (Law of the Sea Institute, University of Hawaii, Honolulu, 1996) pp.115-137.

8 The Rio Declaration on Environment and Development 31 I.L.M. 974 (1992) (hereafter "Rio Declaration"); and United Nations Convention on Biological Diversity 31 I.L.M. 818 (1992) (hereafter "Convention on Biodiversity").

9 O'Riordan, T. and Cameron, J., *Interpreting the Precautionary Principle* (Earthscan Publications, London, 1994); and Harding, R. and Fisher, E., "Introducing the Precautionary Principle" in Harding, R. and Fischer, E. (ed), *Perspectives on the Precautionary Principle* (Federation Press, Sydney, 1999) pp.2-27.

10 Article 6.5 of the Food and Agriculture Organisation's Code of Conduct for Responsible Fishing holds that nation States should apply a precautionary approach widely in the conservation, management and exploitation of living aquatic resources in order to protect them and preserve the aquatic environment. And in some countries, parallel legislation requiring that a precautionary approach be adopted in fisheries management decisions was enacted. For example the *Sustainable Fisheries Act* (U.S.) was enacted in 1996 and the *Fisheries Management Act 1991* (Aust.) was amended in the following year. both laws require a precautionary approach to fisheries management. Food and Agriculture Organisation, *Code of*

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## 5.2 International Fisheries and Conservation Actions

Early in its term, the new Clinton Administration began to reassess its ocean policy options, and to consider available avenues for international environmental leadership. One of its first actions was to inform the UN of its desire to find a solution to the deadlock of the Law of the Sea Convention (LOSC). On 16 November 1993, Guyana became the 60th nation to sign the LOSC, triggering its passage into action one year later. Following the 1993 Prepcom series of negotiations, aimed specifically at dealing with outstanding issues, the U.S. has again considered acceding to the 1982 Convention.

The lack of adequate high seas fisheries provisions in the LOSC — as highlighted by the emergence of problems such as the pelagic driftnetting issue — led to two separate 1992 events to focus on these problems.[11] The first was at a meeting resulting in the Declaration of Cancun, which pushed forward the idea of a Code of Conduct to be created under the auspice of the FAO.[12]

The second was the Chapter 17 of Agenda 21 which emerged from the Rio Conference on Environment and Development (UNCED).[13] Agenda 21 recognised the need to promote the development and the use of selective fishing gear and practices so as to minimise the bycatch of non-target species both in the high seas and areas of national jurisdiction.[14] Moreover, it called for an intergovernmental conference with a view to promoting the effective implementation of LOSC provisions on straddling and highly migratory fish stocks. The response generated by these 1992 developments has been referred to as a twin track approach; whereby a binding agreement, and a much broader and more detailed voluntary code of conduct, were simultaneously developed.[15]

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*Conduct for Responsible Fisheries* (FAO(UN), Rome, 1996) in *Report of the Conference of FAO*, 28th Session, Rome, 20-31 October 1995, Doc. C 95/REP, (hereafter "Code of Conduct").

11 Burke, W., Freeburg, M. and Miles, E., "United Nations Resolutions on Driftnet Fishing: An Unsustainable Precedent for High Seas and Coastal Fisheries Management" (1994) 25 *Ocean Development and International Law* 127.

12 The Declaration of Cancun came out of a meeting hosted by the Mexican Government in May 1992. Haward, M., "Management of Marine Living Resources: International and Regional Perspectives on Transboundary Issues" in Blake, G., Chia, L., Grundy-Warr, C., Pratt, M. and Schofield, C., *International Boundaries and Environmental Security: Frameworks for Regional Cooperation* (Kluwer Law International, London, 1997).

13 *Report of the United Nations Conference on Environment and Development*, United Nations, Rio de Janerio, 3-14 June 1992, UN Doc. A/CONF.151/26/Rev.1, Vol.1, Annex II (hereafter "Agenda 21").

14 Agenda 21, para. 17.46 and 17.75.

15 Edeson, W., "The Code of Conduct for Responsible Fisheries: An Introduction" (1996) 11 *International Journal of Marine and Coastal Law* 233.

A series of meetings through 1993 and 1994 concluded with a report to the 48th UNGA, which resulted in the September 1995 Agreement Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks (UNIA or the Implementing Agreement).[16] Included in this new agreement was explicit recognition of the need to minimize the bycatch of fish and non-fish species.[17]

Also in September 1995 the United Nations FAO Code of Conduct for Responsible Fisheries was finalised and adopted. This highlighted, among other things, the minimisation of bycatch.[18] The General Principles of the Code stated that

> [m]anagement measures should not only ensure the conservation of target species but also of species belonging to the same ecosystem or associated ecosystems dependent upon the target species[19]

and section 6.6 directed

> States and users of aquatic ecosystems [to] minimise waste, catch of non-target species, both fish and non-fish species, and impacts on associated or dependent species.

Together these initiatives,[20] underpinned by the LOSC, "constitute the basis for future directions in the area of fisheries".[21]

## 5.3 The Use of Trade Instruments

Important changes occurred, also, in terms of international trade agreements during the 1990s. The GATT panel's tuna-dolphin decision was significant not only for its outcome, but also because it was the first time that lawyers from both sides of the free trade debate consciously focused on the implications that trade liberalisation may have for environmental protection. Though it was not the first case to raise issues of trade/environment conflict, it was the first case that managed to capture the attention of lawyers, economists, politicians and policy-makers.[22]

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16 Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, 34 I.L.M. 1542 (1995) (hereafter "The Implementing Agreement" or "UNIA"). For discussion see Anderson, D., "The Straddling Stocks Agreement of 1995 - An Initial Assessment" (1996) 45 *International and Comparative Law Quarterly* 463.

17 UNIA, Article 5(f).

18 Code of Conduct, Annex 1.

19 *Ibid*, Section 6.2.

20 At this same time a third significant development was also occurring. This was the creation of the FAO Compliance Agreement, intended to reduce fishing on the high seas contrary to internationally agreed conservation and management measures. The compliance agreement was adopted by the 1993 FAO Conference. Food and Agriculture Organisation Agreement to Promote Compliance with International Conservation and Management Measures by Fishing Vessels on the High Seas, 33 I.L.M. 968 (1994).

21 Edeson (1996) *op. cit.* n15 at 234.

22 Carr, I., "Environment versus International Trade: Where are We Now?" (1997) 3 *International Trade Law and Regulation* 130.

The GATT was traditionally guided by a liberalist ideology, promoting free trade to encourage economic growth and raise standards of living. From 1986 to 1994 a new (Uruguay) round of trade negotiations were conducted. Given the publicity the 1991 tuna-dolphin decision received, it is surprising that the issue of trade/environment relations was not considered throughout the ongoing Uruguay round negotiations. One suggested explanation for this was the political nature of the issue, with regard to the north-south economic divide.[23] Indeed, when the topic of environment was raised in the 1990 Brussels meeting, its inclusion was widely resisted.[24]

In the U.S., the 102nd Congress's position was made clear when, in 1992, the House of Representatives passed Resolution 246. Herein, a vote of 362 to 0 called for the President to

> initiate and complete negotiations, as part of the current Uruguay Round GATT talk, to make the GATT compatible with the MMPA.[25]

It seems, however, that only after the major deals had been done, in April 1994 while arrangements for the signing in Marrekesh were being finalised, that issues of the environment were considered. At the conclusion of the Uruguay Round to the general agreement, the GATT panel was replaced by a new body to administer the general agreement's implementation — the World Trade Organisation (WTO). The preamble of the agreement establishing the WTO did, in the event, make special reference to the environment, and mandated that

> economic endeavour shall be conducted while ... allowing the optimal use of the world's resources in accordance with the objective of sustainable development, seeking both the protect and preserve the environment.

Notwithstanding that some reinforcement of the validity of environmental protection measures occurred, instead of (as Congress had directed) making the international trade regime compatible with the MMPA, the Uruguay round of negotiations may have served to strengthen existing (incompatible) arrangements — the WTO agreement strengthened the enforcement measures applied to nations who violate the regime. The WTO's increased strength comes from its economic enforcement measures and means of implementing a decision,[26] ironically the same measures that the U.S. has been condemned for using unilaterally.

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23 *Ibid.*

24 Von Moltke, K., *International Environmental Management, Trade Regimes and Sustainability* (International Institute for Sustainable Development, Winipeg, 1996).

25 246 Cong. Rec. H7699 (6 August 1992).

26 The WTO had altered the previous situation of the GATT whereunder a plaintiff could choose not to lodge a decision into precedent. Now, unless a majority of nations including complainants voted not to have a decision adopted, it automatically entered into international law.

Indeed, through the 1990s unilateral trade sanctions have become the U.S.'s instrument of choice. Many commentators and officials strongly believed in their utility, allowing timely action and costing less than multilateral negotiations.[27] To be sure, the new U.S. administration heralded the use of unilateral trade sanctions as a tool of influence.

> [E]very nation in the world is today headed towards using dolphin-safe fishing practices, because of the power of American markets. We took a stance, saying we are going to impose and embargo on the products of all countries which violate accepted environmental norms. Think about the power of that principle.... The idea will provide the next great international opportunity: to come together with other countries to say we are going to use the markets of the world as a stick to enforce environmental standards.[28]

The international community's position on the use of unilateral sanctions is complex and varied. Principle 12 of the UNCED Rio Declaration and similar statements elsewhere hold that "unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided".[29] Although not contradicting this, a notable shift in emphasis was seen in the WTO Agreement on Technical Barriers to Trade. This recognised that no country should be prevented from taking measures to protect the environment so long as these are not more restrictive than is necessary, and principles of non-discrimination are respected.

In an attempt to find some middle ground and constancy between the trends for reduced international trade barriers and increased environmental protection, a Committee on Trade and the Environment was established in the final Uruguay round negotiations at Marrekesh.[30] This was provided with extensive and detailed terms of reference, and has, since the WTO came into existence on January 1 1995, conducted considerable work on resolving incompatibilities in these paradigms.

At the same time as the Uruguay Round, negotiations for a regional agreement were underway. NAFTA discussions were conducted from 1990 through 1992, and the Agreement was signed in by Canada, the U.S. and Mexico in 1993.[31] The NAFTA brought into sharp focus the interface between trade and the environment, and

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27 For example, McLaughlin, R., "UNCLOS and the Demise of the United States' Use of Trade Sanctions to Protect Dolphins, Sea Turtles, Whales, and Other International Marine Living Resources" (1994) 21 *Ecology Law Quarterly* 1 at 25.

28 Remarks from the Secretary of the Interior's lecture at the University of Colorado Law School, 29 October 1992, cited in Babbit, B., "The Future Environmental Agenda of the United States" (1993) 64 *University of Colorado Law Review* 513 at 521.

29 Rio Declaration, Principle 12(3).

30 The Marrakesh Ministerial Decision on Trade and Environment wherein Trade Ministers in Marrakesh agreed to establish a WTO Committee on Trade and Environment (CTE). See url: http://www.wto.org/wto/environ/marrakes.htm

31 The North American Free Trade Agreement, 32 I.L.M. 605 (1993).

represented the first international trade agreement to specifically incorporate provisions for environmental protection (as compared to provisions for exemption from trade requirements on environmental grounds).

The events surrounding NAFTA negotiations were the main reason for these inclusions. Support for the Agreement in America was slight, and the inclusion of what were usually peripheral issues was one means used to sway the balance of approval. Thus substantial environmental concessions were made, and the NAFTA thus gained the support of a number of environmental organisations, as seen in the WWF's comment.

> Trade has an enormous impact on the planet's ecological health yet trade agreements have always been actively hostile to environmental protection ... NAFTA's passage will ensure that future trade negotiations, including those on the General Agreement on Tariffs and Trade (GATT), follow suit.[32]

The environmental component to NAFTA, the North American Agreement on Environmental Cooperation often referred to as the Side Agreement, created the Commission on Environmental Cooperation.[33] Included in the Side Agreement were commitments to cooperate on environmental issues, the opening of procedures to the public, and the inclusion of NGOs and non government persons in the discussion process. The actual utility of this agreement has however been questioned; one NGO referring to it as nothing more than "window dressing".[34] Moreover there are serious health and environment concerns that stem from the parent treaty's arrangement to expedite clearance agreements of member nations.[35]

Both NAFTA and the WTO have fueled concerns that increasingly trade is shaping environmental policies, and that an excess of power is being concentrated in economic interests. It is largely because of developments on trade issues, that President Clinton has been accused of selling out the environment, and doing so without anybody really noticing. Given the suite of recent trade/environment disputes, evidence that the prioritisation of trade liberalisation has undercut environment protection is mounting.

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32 World Wildlife Foundation, Questions and Answers on NAFTA (1993) at 3. See also Katz, D., *The Mediterranean Free Trade Zone: Lessons from NAFTA* (World Wildlife Foundation, city, 199-)

33 North American agreement on Environmental Cooperation, 32 I.L.M. 1480 (1993) (hereafter "Side Agreement"). See Thomas, C. and Tereposky, G., "The NAFTA and the Side Agreement on Environmental Co-operation" (1993b) 27 *Journal of World Trade* 5.

34 Per. comm. Peter Fugazzotto, Associate Director, Earth Island Institute (EII), Sea Turtle Restoration Project (STRP), San Francisco (CA), 30 March 1999.

35 Per. comm. Dr Martin Hall, InterAmerican Tropical Tuna Commission/Scripps Oceanographic Institute, San Diego (CA), 26 April 1999.

## 5.4 The Marine Mammal Take Reduction Process

In 1990, the MMC, under statutory direction from Secretary of Commerce, conceived a new regime for the management of marine mammal-fisheries interactions.[36] Under advice from its Committee of Scientific Advisors, and subsequent to a period of public comment, the MMC recommended a reiteration of the general principles contained within the Act, with some additions. Procedurally, it supported the reinstatement of the general permit and small take provisions, and introduced the concept, though not the nomenclature, of what was to become the potential biological removal rate or PBR.[37] The PBR was intended to ensure that some take of animals be allowed, but at such a low level that, even given errors that may be made in abundance estimates and reproductive rates, few enough animals would be taken so as to ensure that stocks would not fall below their OSP.[38]

Based upon MMC advice, NMFS proposed a permanent program to address the levels of incidental take that were being recorded.[39] This further developed the concept of PBR, with two key players attributed with its genesis; Douglas DeMaster from NMFS Science Center,[40] and Paul Wade and his team of population modelers.[41]

The PBR was defined using a formula which took the minimum population estimate, and multiplied by one half the maximum estimated growth rate.[42] If dealing with an endangered, threatened or depleted stock, or a stock of unknown status, the above

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36 The MMC was required to design a scientific rationale by which to determine the number of marine mammals that may be incidentally taken could be determined. Factors to be considered included the status and trends of affected stocks, their annual net recruitment level, a measure of uncertainty, and the effect that incidental take would have upon the species recovery to OSP. Marine Mammal Commission, *Annual Report of the Marine Mammal Commission* (Marine Mammal Commission, Washington DC, 1990).

37 Initially termed the Maximum Allowable Removal Level this phraseology acted to aggravate a host of stakeholders so was changed to the PBR level. Per. comm. Dr Robert Hofman, Scientific Program Director, Marine Mammal Commission, Washington DC,15 April 1999.

38 *MMPA Reauthorisation: Hearing before the Subcommittee on Environment and Natural Resources of the House Committee on Merchant Marine and Fisheries*, 103d Cong., 2d Sess (1993) (hereafter "MMPA Reauthorisation (1993)"), statement of Diana Josephson, Acting Under-secretary for Oceans and Atmosphere, NOAA.

39 NMFS, "Proposed Regime to Govern Interactions Between Marine Mammals and Commercial Fishing Operations" presented at MMPA Reauthorisation (1993) *op. cit.* n38. See also Alker, S., "The Marine Mammal Protection Act: Refocusing the Approach to Conservation" (1996) 44 *UCLA Law Review* 527 at 545.

40 Per. comm. Dr Robert Hofman *op. cit.* n37.

41 Per. comm. Dr Sharon Young, Marine Mammal Scientist, Humane Society of the U.S., Woods Hole (MA), 7 April 1999.

42 Taylor discusses the rationale of the use of minimum population abundance. She states that Nmin will allow for more conservative management when precision is low, and that this strategy is consistent with the Act's management objectives. Taylor, B., *Defining "Populations" to Meet Management Objectives for Marine Mammals*, LJ-95-03 (NMFS, Washington DC, 1995).

number would then be multiplied by a recovery factor anywhere between 0·1 and 1·0.[43] The recovery factor was designed to take into account uncertainties inherent in the other parameters.[44]

Neither the environmental nor fishing communities were satisfied with the NMFS model, and thus once again joined together to negotiate their own proposal. The concept of PBR — enacted as described above — was not at issue. The proposals considered most problematic included the observer program, the authorisation of lethal take,[45] the information available and manner in which NMFS would make its decisions, the delay in placing of a strict limit on marine mammal take, and the need for a monitoring system or enforcement measures.[46]

A mediated negotiating process led to the joint preparation of a document by 31 fishing organisations and seven combined environmental bodies. The package was presented to Congress, with the caveat that there were a few issues on which no consensus was reached. It was nonetheless heralded as a truly cooperative agreement.[47] Due largely to the strength of the alliance between these two traditionally opposing groups, a substantial portion of the industry/environmental proposal was used by Congress used to craft the 1994 MMPA amendments.[48]

An important factor in the end-product agreement was the fisheries groups who participated.[49] Most of the fishermen who participated in negotiations felt that the

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43 There have, however, been some objections to the recovery factor because it is too "squishy". For example if you "change the recovery factor of harbor porpoise from 0.5 to 0.9 you might not have much of a bycatch problem." Per. comm. Dr Sharon Young *op. cit.* n41.

44 Taylor (1995) *op. cit.* n42.

45 Another significant marine mammal-fisheries problem was competition for particular resources. In particular the consumption of endangered salmon and steelhead trout on the Pacific Coast by protected but unthreatened sealions and seals. The MMPA was amended in response to both this situation and the judicial decision in *United States v Hayashi* (22 F.3d 859 (9th Cir. 1993)) where the court had overturned a conviction on a fisher who had fired bullets at dolphins to keep them from interfering with his gear. The amendment allowed for fishers to deter marine mammals from interfering with or damaging their catch or gear, but only through the use of non-lethal and non-injurious means.

46 MMPA Reauthorisation (1993) *op. cit.* n38, statement of Dr Sharon Young, Wildlife Consultant, International Wildlife Coalition; per. comm. Dr Robert Hofman *op. cit.* n37.

47 140 Cong. Rec. S3293 (1994) (21 March 1994), statement of Senator Kerry.

48 Alker (1996) *op. cit.* n39.

49 One issue was the absence of the ATA for the first time. This allowed the 1994 amendment process to be a uniform consideration of the bycatch issue. Having previously played a major role in the MMPA legislative process, reasons for the ATA absences have been suggested to include the IDCA's coverage of the tuna issue, or else that the issue itself has been by and large resolved by the 1990 commitment of major canning companies to no longer buy tuna from fishers who set on dolphins. Indeed data from 1989 to 1991 suggests that the number of dolphin captured as bycatch in the ETP was by the early 1990s of only a minor problem. Coulston, C., "Flipper Caught in the Net of Commerce: Reauthorisation of the Marine Mammal Protection Act and its Effect on Dolphin" (1990) 11 *Journal of Energy, Natural Resources and Environmental Law* 97; Kubasek, N., Browne, N.M., Young, M. and Hiers, W., "Protecting Marine Mammals: Time for a New Approach" (1995) 13 *Journal of Environmental Law* 1.

majority of fisheries did not have a marine mammal bycatch problem, and moreover that those fisheries with a high bycatch rate needed to improve their performance due to the negative image it conferred upon the entire industry.[50]

It is important to note in this regard that most of the fleets represented were trawl and longline organisations, that is, the 'big money fisheries'. The northeast gillnet fisheries, for example, are small and individually owned and operated, and were not well organised and hence had scant representation.[51] These were the fisheries that were chiefly attributed with the taking of unsustainable levels of marine mammals.[52] Thus the main fisheries to be effected by MMPA amendments were not at the negotiating table in any real numbers.

As a moot solution to several of the perceived problems of the NMFS proposal, the environmental/industry group constructed a process called take reduction (TR) planning. To so facilitate, the long-standing requirement to obtain a permit before any incidental taking of marine mammals occurred, was removed. In lieu, take reduction teams (TRTs) including scientists, conservationist and animal welfare groups, industry representatives, and state and federal government managers, would be charged with developing a plan for strategic stocks: a take reduction plan (TRP). The teams were a determined move towards an inclusive approach based on the theory that more people will be satisfied with an outcome to which they have contributed.

Another important aspect of the process was that it was to be consensus based. If all participants were unable to agree then the duty of preparing a plan reverted back to NMFS.[53] As denoted by game theory, such an arrangement will only work, if both sides feel that the TRT is the best forum for achieving a result. If any party feels that it can achieve better results by an alternate means, be that a legal suit or appealing to Congressional representatives to take up their cause, then the TR process will not work because there is no incentive to compromise.

Together, the PBR and the TR process saw a major shift in the scheme of the Act. A new classification system under the guise of the Marine Mammal Authorisation Program was introduced. Two schemes were established, one assessing the health of

50 Per. comm. Dr Sharon Young *op. cit.* n41.

51 *Ibid.*

52 The NMFS had identified those fisheries of particular concern as these in the Gulf of Maine that took harbor porpoises, and the driftnet fisheries off the Californian and Atlantic coasts. Per. comm. Victoria Cornish, Fishery Biologist, National Marine Fisheries Service (NMFS), Office of Protected Resources, Washington DC, 19 April 1999.

53 The legislation provided that if the TRT could not agree, then the NMFS had 8 months to develop a draft plan, followed by a 90 day public review period, and then 60 days in which to publish a final plan and final regulations.

the stock, and the other the threat posed to marine mammals by various fisheries. With regard to the first, the Secretary of Commerce was required to undertake and publish stock assessments within 12 months of the passage of the amendments and to periodically conduct stock reports.[54] Where a stock is endangered, threatened or the level of mortality is at or near the PBR level, then the stock was to be designated as a strategic stock.[55] Such a designation automatically triggered the establishment of a TRT.

Categories were also assigned to each fishery based on the "relative frequency of incidental serious injuries and mortalities of marine mammals in each fishery" with decreasing risk as the scale increased in number from Category I through III.[56] As of March 1996, the MMPA required owners of vessels or non-vessel gear, engaged in a Category I or II fishery, register with NMFS and obtain a marine mammal authorisation in order to lawfully take a marine mammal incidental to their operation.

A series of strict deadlines was then placed upon the agency.[57] This was significant due to the procedural requirements it placed upon NMFS. According to one NGO representative

> The point of doing that is that it lets you sue. Because if the law says you must do something by a certain time and you haven't done it then they have violated the law.[58]

It was then proposed that the PBR be systematically reduced each year hence furthering the goal of zero mortality. In this way the proposed scheme

> contains a new system for allocating quotas for incidental take of marine mammals to certain commercial fisheries, [and meanwhile] retains the long-standing zero mortality goal associated with the commercial fishing exceptions in the MMPA.[59]

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54 To facilitate data collection for the calculations of PBR levels, three scientific review groups were constructed for each of the Atlantic and Pacific coasts, and Alaska. These groups were also required to investigate the impacts of habitat destruction on marine mammals.

55 A strategic stock is a species which is
- listed as endangered or threatened under the ESA,
- declining or likely to be listed under the ESA,
- listed as depleted under the MMPA, or
- has direct human caused mortality which exceeds the stocks potential biological removal level.

56 MMPA, §1383a(b)(1), 1387(c)(1)(A), [s114(b)(1), 118(c)(1)(A)].

Regulations were established to implement this amendment. These defined the terms "frequent", "occasional" and "remote likelihood" for each of the categories respectively, and required that the allocation of fisheries into each Category was to be reviewed and revised annually.

57 Once formed the team had 6 months to develop a take reduction plan: this was to outline the mechanisms to be used to reduce the take to a level below the PBR. The NMFS was then afforded 2 months to consider the plan and publish a draft, followed by 90 days of public comment. The plan was then to be published and the fisheries allowed 6 months to achieve results.

58 Per. comm. Dr Sharon Young *op. cit.* n41.

59 Sauer, M., "Balancing Marine Mammal Protection Against Commercial Fishing: The Zero Mortality Goal, Quotas, and the Gulf of Maine Porpoise" (1993) 45 *Maine Law Review* 419 at 422.

The amendments required that incidental serious injury and mortality be reduced to insignificant levels approaching zero mortality within a seven year period, that is by the year 2001.[60] Quite some discussion had occurred as to the ZMRG and the notion that it was an unrealistic concept has been raised.[61] At a June 1994 workshop, however, NMFS, FWS and MMC biologists recommended that the ZMGR be set at 10% of the PBR level.[62] Building upon these discussions, and in an attempt to define the ZMGR, NMFS issued proposed regulations. Comments received from both the fishery industry and scientists, however, made it retract that part of the regulation. These groups concurred that the definition was a very low target, and potentially a burden beyond Congressional intent.

Overall the 1994 changes suggested a move from marine mammal protection to population sustainability.[63] They also resulted in a shift in the burden of proof, to require that NMFS prove that fishing was harmful to the population if the take was to be banned. That is, incidental taking of marine mammals is categorically permitted unless and until there is reason to believe it its causing a problem.

NMFS was critical of this shift in burden from the proponent to the agency, due to a concern that it carried a presumption that incidental take would not cause harm.[64] There was also some uncertainty as to whether adequate appropriations would be allocated to carry out assessment tasks.[65] Over time the scheme has assumed a much more positive reputation.

> The TRP gave us the teeth to do our job [and] ... allowed us to take all the information that we had collected on population size, on incidental take, and to develop a plan that would actually decrease the take to a target level.[66]

In May 1995, one year after the amendments to the MMPA were passed, researchers estimated that 3200 marine mammals were being killed annually in Atlantic fisheries, and 4400 in Pacific coast fisheries.

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60 It was mandated that levels approaching zero mortality were to be reached by 30 April 2001.

61 "Is it zero, or is it some level of sustainability that the population can sustain?" Per. comm. Victoria Cornish *op. cit.* n52.

62 That is, 10% of the number of marine mammals that could be taken while still maintaining stocks at their OSP. Baker, B., "Marine Mammal Protection Increased" (1995) 45 *BioScience* 317.

63 Chmael, G., Ainsworth, K. and Kramer, R., "The 1994 Amendments to the Marine Mammal Protection Act" (1995) 9 *Natural Resources and Environment* 18.

64 MMPA 1993 Reauthorisation *op. cit.* n38, discussion between Dr. Nancy Foster and Senator Kerry. See also Alker (1996) *op. cit.* n39.

65 Per. comm. Victoria Cornish *op. cit.* n52.

66 *Ibid.* Positive reaction within the agency came from additional NMFS authority to place observers on vessels in a whole suite of fisheries that may have interactions with marine mammals, and an expansion in genetic work on stock differentiation also occurred. Long term methods for gather data through continuation of species monitoring programs were established.

Category I fisheries were identified. A compendium of all available information was compiled and recommendation on research needs were made. Five TRTs were formed based upon the stock assessment report data. These were the:

- Gulf of Maine Harbor Porpoise,
- Mid-Atlantic Coastal Gillnet,
- Atlantic Large Whale,
- Pacific Offshore Cetacean, and
- the Atlantic Offshore Cetacean TRT.

## The Harbor Porpoise: Mid-Atlantic & Gulf of Maine Coastal Gillnets

Harbor Porpoises are taken in gillnets used in the Gulf of Maine and mid-Atlantic in fisheries for cod, pollock and other groundfish. Though the same migratory porpoise stock, due to the strong differences in the fishers and their fishing practices, these fisheries were tackled as separate teams.[67]

Even prior to the establishment of the TRT, the Gulf of Maine fishery had a history of bycatch mitigation. As early as 1982, harbor porpoise take was considered to be a problem[68] — research had shown that the incidental take of harbor porpoises in New England was probably not in small numbers, and that the fishery was having a significant effect.[69]

Though of scientific concern, this issue was not high on the public agenda. Towards the mid 1980s, a unique coincidence occurred, and harbor porpoise bycatch was catapulted onto the policy agenda. Gillnet fishers had lodged a series of complaints that longliners and trawlers were dragging gear across their nets. A reporter from Sports Illustrated magazine was undertaking research for a story, when the vessel he was on hauled in three harbor porpoises. An article in Sports Illustrated resulted.[70] This publication marked a growth point for the recognition of the issue.

In 1984, under the small-take exemption provision, NMFS granted a five year exemption to allow the incidental gillnet take of 180 harbor porpoises and 50 harbor seals annually in the Gulf of Maine.[71] In accordance with the 1988 amendments to the

67 Per. comm. Dr Sharon Young *op. cit.* n41

68 The problem with harbor porpoise bycatch was recognised in 1982, when the widespread nature of marine mammal bycatch began to be realised, and MMPA provision were amended to allow for the incidental take of small numbers of animals. See Chapter 4, text accompanying footnote 204.

69 Per. comm. Dr Robert Hofman *op. cit.* n37.

70 Indeed, while out on the boat the reporter had inquired in passing about harbor porpoise bycatch. Though the skipper acknowledged their occasion capture, he surmised that the existence of any actual problem was largely a figment of an overactive imagination.

71 Issuance of a Letter of Exemption, 49 Fed. Reg. 5645, 5646 (1984)

MMPA, during the early 1990s NMFS initiated an observer program to collect information on the life history, population size and incidental take levels of Gulf of Maine harbor porpoises.

In May 1992, a group of scientists met to determine the status of harbor porpoise.[72] It was concluded that the gillnet bycatch level probably exceeded the sustainable level of the stock. At least 1800 of the 45,000 strong population of harbor porpoises were killed each year in Gulf of Maine gillnetting operations, a level which scientists recommended be reduced.[73] In addition to this toll, it was estimated that Mid-Atlantic gillnetters took 200 harbor porpoises per annum. What was once considered a fishery with insignificant take, had become a cause for concern.

Soon thereafter NGOs submitted a petition to NMFS that the harbor porpoise be listed under the ESA. In response, NMFS floated a proposal that the harbor porpoise be designated as a threatened species.[74] The recommendation raised concern among fishers that regional gillnetting operations may be outlawed.[75] Compounding this fear, was the coincidence of these policy developments with a marked decline in groundfish.[76] In the event, a decision on the nomination was deferred until take reduction efforts and information gathering had been progressed.

The Gulf of Maine gillnetters' preferred instrument under which to effect a bycatch minimisation scheme, was the FCMA.[77] The logic being, that if adequate protection could be found under FCMA management plans, then the harbor porpoise would not be listed under the FSA, as one criteria for listing a species thereunder is the absence of existing regulatory mechanisms.[78] In the absence of FCMA regulatory measures, the listing of harbor porpoise under the stricter ESA provisions was much more probable.

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72 *Ibid.*

73 For 1990 and 1991 respectively it was estimated that approximately 2,400 and 1,700 harbor porpoises (respectively) were caught incidental to groundfish gillnetting operations. See *Harbor Porpoise in Eastern North America: Status and Research Needs, Results of a Scientific Workshop held May 5-8, 1992 at the Northwest Fisheries Science Centre, Woods Hole,* Northeast Fisheries Science Center Reference Document 92-06 (Marine Mammals Investigation, NMFS, 1992) cited in Sauer (1993) *op. cit.* n59.

74 58 Fed. Reg. 3108 (1993).

75 "Porpoise Caught in Gill-Net Dispute" *Maine Sunday Telegram*, 19 January 1992.

76 Plante, J., "Double Dilemma Challenges Gillnetters" (1992) December *Commercial Fisheries News* 11; Plante, J., "Gillnet Fishermen: Harbor porpoise Listing, Groundfish Cuts Exact Dual Toll, (1993) February *Commercial Fisheries News* 13; and Plante, J. "Working Group Plans Harbor Porpoise Technical Workshop" (1993) March *Commercial Fisheries News* 19.

77 Plante, J., "Gillnetters Proposal" (1992) December *Commercial Fisheries News* 11.

78 ESA, §1533(a)(1)(D), [s4(a)(1)(D)]. Encouragement came from the NMFS office of protective resources which commented that proposed amendment #5 would likely satisfy the agency's requirements not to list the species. Payne, quoted in Plante (1993) *op. cit.* n76.

Accordingly, in October 1992, the Department of Commerce, under the authority of the MMPA, requested that the New England FMC take action under the FCMA to reduce harbor porpoise mortality in the Gulf.[79] Specifically, the northeast multi-species FMP was to be amended so as to include an objective pertaining to the reduction of harbor porpoise bycatch. A working group was established.

The working group showed considerable interest in pinger technology and in affected in harbor porpoise bycatch reduction more generally. By 1993, an interim measure to reduce harbor porpoise bycatch was in place, and a range of amendments to the FMP had been proposed.[80] The goal was the reduction of harbor porpoise mortality by half, over a five year period. Despite its best intentions, the FMC's bycatch working group lacked the power it needed to reach this target.[81]

During the 1994 MMPA hearings, Gulf of Maine gillnetters expressed concerns that proposed changes to the Act would significantly affect their fisheries operations.[82] To recall, there had been scant involvement of gillnet fishers in the negotiated amendment put to Congress during reauthorisation.

The northeast harbor porpoise was the first TRT to be convened under the MMPA's new scheme. Though chiefly because of scientific, public and hence Congressional concern about the stock, a lack of representation from gillnetters is sure to have contributed to the singling out of that particular fishery .[83] By April 1996, harbor porpoise bycatch was supposed to be below PBR.

Though the TRT was a fairly large team, it had an advantage in that the fishermen were already aware of the problems associated with bycatch, due to their ongoing meetings with NGOs and other officials. In this scenario, it was external influences that proved problematic to the smooth passage of the creation of a plan. Of particular concern were unproductive and uncoordinated interactions with the FMC process.

> You had the TRT trying to make all these decisions about the pingers and closures, and so they'd develop a consensus, and then the FMC would do something and then they [the Team] would have to scramble and change what they did. So it was a competing process, and until the agency had

79 Letter from William W. Fox, Jr., Director, NMFS, to Joseph Brancaleone, Chairman, New England Fishery Management Council (15 October 1992).

80 New England Fisheries Management Council, "Modifications and More Options: New Proposals for Groundfish Amendment #5", (1993) May *Commercial Fisheries News* 14.

81 Time-area closures proved to be too narrow in both duration and size, and the use of acoustic deterrent devices, or pingers, were not adequately adopted. Marine Mammal Commission, *Annual Report to Congress* (Marine Mammal Commission, Washington DC, 1997).

82 For example, see letter from the National Fisheries Institute, Inc. Arlington, Va., and signed by 85 commercial fishing organisations, to Charles Lamella, NMFS (20 December 1991) discussing the impact the NMFS's legislative proposal would have upon the fishing industry and consumers.

83 The PBR was 403 and bycatch was estimated at that time to be 1400 individuals per annum.

> acknowledged the Team's plan and begun to implemented it, the FMC was still moving along its process and making it very difficult to implement the Team's plan. They were shifting the foundation of what the Team's plan was built on.[84]

The main impairment to a successful TR process, however, was the lack of scientific data available. The team submitted its draft TRP in August 1996 and NMFS issued a proposed rule. This first TRP relied upon data that was several years old.[85] This lack of up-to-date information led the TRT to recommend the continuation of existing FMC bycatch mitigation measures: that is, the use of pingers, and a series of three or four small time area closures, encompassing the areas of coincidence between primary fishing effort and incidental takes.[86]

Although intended to be published by December 1996, in the event the TRP was delayed to await the release of 1995 and 1996 data.[87] Other (side) issues then took over — a law suit concerning large whale bycatch in particular took precedence, and with insufficient staff and three northeast TRTs meeting simultaneously, the harbor porpoise was pushed to the background.

Data became available in late 1997, and with its receipt it became obvious that the draft plan was not going to work.

> We would have as much bycatch in the next two years as in the previous because the porpoise had shifted outside the closed areas.[88]

Data indicated that, because of the mobility of harbor porpoises, mitigation efforts needed to cover virtually their whole range. The related problem was that (given the main mitigation tool was area closures) such action would have also resulted in the closure of the fishery.[89] A new plan was needed. To this end a TRT meeting was convened for December 1997. Held only 2 weeks before Christmas, there was very little attendance by fishermen. The team devised an overall strategy: though due to non-attendance it was not considered a consensus solution.

The TRT suggested a very large, nearly complete, closure. A caveat was placed on this however, that as pingers has shown some success in the reduction of harbor porpoise

84 Per. comm. Victoria Cornish *op. cit.* n52.

85 The most up to date data available was from 1993. Per. comm. Laurie Allen, Fishery Biologist, Protected Species Program, National Marine Fisheries Service (NMFS), Northeast Region, Gloucester (MA), 5 April 1999.

86 The TRT's proposed time area closures did, however, expand on those outlined in Amendment 7 of the Multi-Species FMP. *Ibid.*

87 *Ibid.*

88 *Ibid.*

89 This is because, as is often the case, the best time to fish was also the time when the harbor porpoise were present.

bycatch, fishers who used pingers in these areas were exempt from the closure September through May (effectively the whole of the fishing season). With the strong support of fishers on the Team, NMFS converted these suggestions into a final rule. Much to NMFS's surprise, many fishers reacted negatively to inclusion of the pinger requirement in the rule.[90] And in the event, the final TRP was never published.

On 21 August 1998, the CMC and HSUS filed suit in the District Court of Colombia charging that the U.S. Department of Commerce and NMFS had failed in their legal responsibility to protect harbor porpoises from unsustainable levels of bycatch by New England gillnetters.[91] In this regard the plaintiff contended two points. Firstly that NMFS had violated the ESA in its failure to publish a final determination on the proposal to list the harbor porpoise under that Act. And that, because the take of porpoises was greater than the population could sustain, NMFS had erred in its failure to publish a plan under the MMPA to reduce the incidental take of the species.[92]

The case was based upon the defendant's missing of statutory deadlines. According to NMFS employee Laurie Allen "the thing that was odd was that justifications as to why the delay occurred were pretty valid." However the perception from the plaintiffs was that the delay was never likely to end.

> The team reached consensus on a plan in February 1996, they never published it, never did anything with it, they sat on it. So we worked with them, we helped get some of the points of the plan put into the FMC as part of the groundfish management plans, but they were totally inadequate to reduce bycatch. Effort shifted in a way people had not predicted. The plan clearly was not working, we negotiated with them

90 At the meetings the overwhelming preference expressed by the fishers was to impose strict pinger regulations, but declare no closures (Per. comm. Laurie Allen *op. cit.* n85). Pingers had been first developed at the behest of fishers who has sought the collaboration of the University of New Hampshire. The devices were reasonably priced, at a once-off cost of $US3500 per vessel. They functioned by sending out a signal and alerting marine mammals to the presence of an object. Marine mammals do not echo-locate in familiar coastal environments, because they know their surroundings.

Indeed it had been NGOs and the NMFS who, at the time, had displayed the most caution about a pinger-based approach. Though there was some positive evidence as to the success of the devices, conflicting evidence from experimental fisheries suggested that mitigation may be as low as 50% (though scientific experiments that were well controlled provided between 90-100% exclusion). Moreover enforcement and correct use were thought to pose a problem:

> we began to place observers on boats, and there were meant to be 40 pingers per net. The observers were starting to record 10, 20, 30 pingers, not the full complement (and there was some incidental take being recorded).... It was getting fishermen to understand how the pingers were intended to work and getting them to use them properly that was the hardest part (Per. comm. Vickie Cornish *op. cit.* n52).

There also remain questions as to the long-term impacts of pingers in the field. How does the noise effect both cetaceans and other species? Is there habituation by dolphins?

91 The CMC and HSUS were joined in the suit by the International Wildlife Coalition and HSUS members Sharon Young, Cherie Mason and Barbara Birdsey. "National Marine Fisheries Service has Violated Marine Mammal Protection Act and Endangered Species Act, Lawsuit Charges" *Media Release*, HSUS and CMC, 21 August 1998.

92 *Ibid.*

> and made promises that by January [1997] we will do this and by February we will do that. But [NMFS responded that] we can't do it right now because the right whale team is meeting and we need to meet that court mandate so we'll do it here. And then in Fall of last year we [HSUS] said no more. The plan was a consensus plan of 1996, the law says you are meant to be at PBR by 1996, you have missed every deadline, it is now fall 1998 you have done nothing, you keep saying you are going to do something, you are not. [93]

The judge examined the case and suggested a settlement: he made it clear that NMFS would loose if the case went to trial. So, unusually, the action was settled out of court. As part of the arrangement thereunder, a commitment was given by NOAA to a series of deadlines on harbor porpoise action. These included the immediate publishing of a rule under the MMPA to regulate and reduce the bycatch of harbor porpoises, with a waiver on the usual 30 day waiting period.[94]

On 11 September 1998, NMFS published a proposed rule to implement the Harbor Porpoise TRP operating in both the Gulf and mid-Atlantic. The final rule was published on December 2 and became operational two weeks later. Six areas in the Gulf were be closed to gillnetting, though, during the majority of each closure, fishers were permitted to continue their operations so long as they fitted pingers to their nets so as to deflect approaching porpoises. A statement by NMFS indicated an expected reduction from the figure of 2000 harbor porpoise mortalities, to a take of less than 400 individuals each year. This figure sits within the expected range as determined by the PBR of 483 per annum.[95]

Though harbor porpoise bycatch in the New England region began as the primary concern, as fisheries regulations became more restrictive, and groundfish more scarce, fishers moved south targeting monk and dogfish in the mid-Atlantic. Consequently, harbor porpoise interactions began to increase in the more southern areas,[96] and it was decided that a mid Atlantic TRT was needed.[97]

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93 Per. comm. Dr Sharon Young *op. cit.* n41.

94 Laurie Allen of the Office of Protected Resources was critical about the impact that bring the suit had upon relations between the fishers and the NGOs, saying that the primary outcome was increased animosity because of the plaintiff's requirement for immediate implementation. This requirement placed an obvious economic hardship on fishermen, and some of them had to cease fishing for several weeks so as to regear and to rehang their nets. Sharon Young a plaintiff in the case and an employee of the Humane Society of the United States, contends however that there was sufficient lead up to the case to have allowed fishers to make the necessary changes without undue hardship. Per. comm. Dr Sharon Young *op. cit.* n41; Per. comm. Laurie Allen *op. cit.* n85.

95 "Feds and Northeast Gillnetters to Reduce Harbor Porpoise Entanglement in Gear" *Press Release*, NOAA, 1 December 1998, 89-R169.

96 Between 1995 and 1997 the bycatch estimate of harbor porpoise in the mid-Atlantic increased from 100 to 570. This was due to both the shift in effort due to the collapse of the groundfishery in New England, and the acquisition of a more complete data set.

97 Per. comm. Laurie Allen *op. cit.* n85.

Initially the team attempted to consider and regulate the bycatch of cetaceans in the mid-Atlantic region in terms of target catch. However, NMFS's attorneys vetoed this scheme due to difficulties that would likely arise with enforcement.[98] So the mid-Atlantic TRT altered its strategy to that of a gear based approach. It formulated gear modification requirements based upon mesh and net size.[99] In determining the specific modifications, the team looked to the fishers that seemed to have least bycatch — the local fishers. The parameters of their gear and the locally prevailing factors were examined.[100] Gear modifications and area closures, but not pingers, were required in the mid-Atlantic.[101] The anticipated harbor porpoise bycatch once these arrangements were in place, was less than 50 porpoises per annum.

When finally the regulations were drafted, NMFS decided that because it was the same stock in the mid-Atlantic and New England area, it would publish the bycatch reduction plans as a single document.[102]

Also in the settlement was a requirement that a decision be made by 4 January 1999 on whether to list harbor porpoises as endangered under the ESA. Although petitioned for listing as threatened more than five years ago, a decision was never made because of the hope that the 1994 MMPA amendments and the new TRT process would remedy the species' decline. In October 1998, NMFS reopened the comment period on the 1993 proposal to list the east coast harbor porpoise under the ESA. The MMC recommended that listing proceed unless sufficient bycatch reduction occurred to reduce the stock below the PBR level the following year. On 5 January 1999, the NMFS published a notice stating that it was withdrawing its earlier proposal to list the Gulf of Maine and Bay of Fundy harbor porpoises as threatened under the ESA, having found that such listing was not warranted at this time. It did, however, decide to retain the species on the candidate list, signifying that it requires careful attention and monitoring.[103] The HSUS is still reserving judgement on whether to sue on this decision.

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98 A target species approach is somewhat unenforceable. Although the area fished and hence bycatch differs, because the gear is the same for several of the fisheries it is too simple for fishers to lie as to their target species, and alternatively, regulation post catch by percentage of species can not be done until the fishers dock, which itself presents a very difficult regulatory scenario.

99 For example, for a 45 net cap was placed upon dogfish sized nets which were those under 7", and for larger meshes (primarily targeting monkfish in the mid-Atlantic) a different net limit and a different floatline length was regulated.

100 Per. comm. Laurie Allen *op. cit.* n85.

101 Gear modifications included limits on the length and number of nets, and minimum twine diameters.

102 Per. comm. Laurie Allen *op. cit.* n85.

103 The benefit of inclusion on the candidate species list was that, although not triggering regulatory mechanisms, funding was available to monitor these species. *Ibid*

Also potentially the subject of legal action is the lack of consideration afforded to the bycatch of bottlenosed dolphins. Its omission from the mid-Atlantic plan was due to a lack of information. The stock had been identified as a strategic stock because of its status as depleted under the MMPA, so should — technically — have been included in a TRP. Indeed, notwithstanding the lack of observer information, a survey of strandings with signs of entanglement placed the body count over the PBR.

NMFS, however, maintained that there was no point holding a team meeting when data was not available.[104] Though environmental groups were not happy, it was agreed that the observer program would be allowed to operate for one year before any action was taken. Once again the process stalled. In January 1999, under threat of legal action, fishers supported the NGO's demand that a team be convened. No action has occurred and legal proceedings are imminent.[105]

## Atlantic Large Whale Take Reduction Plan

The northern right whale is the most endangered marine mammal in U.S. waters. Its largest known population is 300 individuals.[106] It is also a bycatch in several fisheries off the Atlantic coast. Thus NMFS was required to consider not only large whale-lobster pot and gillnet interactions through the TR planning process, but also under an ESA section 7 consultation.

Several years prior to the instigation of TRPs, the Marine Mammal Commission recommended to NMFS that a right whale recovery plan be created to reduce the take of these large cetaceans. Though initially depleted by commercial whaling, modern threats of mortality were through collisions with boats and entanglement in fishing gear. The NMFS right whale recovery plan was adopted in 1991.

Given the critically endangered status of the northern right whale, the biological opinion created under the ESA had found that if either fishery continued operating as it was, it would jeopardise the continued existence of right whale. The ESA limits incidental take to situations where it will not jeopardise the continued existence of the species. In situations where any take is significant to the species' survival, incidental take allowances can not be issued.[107]

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104 Reasons that NMFS did not wish to address the bycatch of bottlenosed dolphins included uncertainties about stock separation. This issue created controversy both from a scientific angle in terms of how the stock separation lines are drawn, and also from a management perspective due to the resistance of fishers to managing several stocks.

105 Per. comm. Dr Sharon Young *op. cit.* n41.

106 Marine Mammal Commission, *Annual Report to Congress* (Marine Mammal Commission, Washington DC, 1998).

107 This differs from the normal situation. Usually, even though take is prohibited, an allowance for legal lethal takings can be issued so long as it does not jeopardise the species' survival.

The ESA is aimed not at preventing actions, but at allowing activities to continue within parameters. Reasonable prudent alternatives to closing the fishery were sought. To this end, the ESA's critical habitat provision was invoked. Unlike a 'jeopardy opinion' whereunder conservation measures decided on are mandatory, critical habitat does not have any restrictive mechanisms. Right whales appear every year inside Cape Cod Bay, as well as in an area rich in plankton off the bottom of the Cape. Those two areas were designated as critical habitat under the ESA, and gillnet fishing was prohibited between 1 January through 31 May, and lobster fishing was subject to stringent gear requirements.

Notwithstanding these efforts under the ESA, right whales were still declared a strategic stock under the MMPA, and a TRT was convened in August 1996. Included in its brief, was ensuring that the bycatch of humpback, fin and minke whales was below their PBR levels. However, as the PBR for Atlantic right whales was calculated to be 0·4 per year — a figure significantly below the actual removal rate — most attention was focused on this species.

The fisheries that came under consideration were the east coast lobster, the New England sink gillnet, the mid-Atlantic coastal gillnet, and the southeastern U.S. shark gillnet fisheries. Initially, NMFS had opposed the classification the lobster fishery as a Category I fishery, due to the political unpalatability of such a move: the lobster fishery generates a considerable income and consequently has powerful Congressional support.[108] NMFS was mindful of making the 'wrong folk mad' and the budgetary repercussions that may have followed. In light of NMFS resistance, Richard (Max) Strahan the national campaign director of GreenWorld sued. In an amended complaint to the case *Strahan v Linnon*, the plaintiff alleged, *inter alia*, that NMFS had failed to classify the New England lobster fishery as a Category I fishery, and thus that the Services' right whale recovery plan was deficient.[109]

The court issued a ruling on 1 April 1997, by which stage NMFS had remedied many of the complaints, making several points moot. These included action to develop a TRP and the categorisation of the lobster fishery as a category I fishery. The process of this litigation however allowed NMFS to align itself with the fishermen on the understanding that they too are against the classification of the lobster fishery as Category I, but have been ordered by the courts to take action. Responsibility to alter the situation, hence necessarily lay with Congress, through the amendment of the legislation.

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108 Per. comm. Dr Sharon Young *op. cit.* n41.

109 *Strahan v Linnon*, District Court of Massachusetts, 7 July 1994.

Although some aspects of right whale bycatch reduction were agreed upon by the TRT, the team was unable to develop a consensus plan that all participants felt met the objectives. Particular points of contention were the extent of time area closures and the modification of gear.[110] Thus, in February 1997, the TRT submitted its report to NMFS, detailing those areas of agreement and dispute.

Based on this report, NMFS was then required to publish a proposed plan within two months. The interim final rules for the Large Whale TRP were published in July 1997.[111] It was opined that the author of the plan "locked himself in an office and never talked to any of the fishermen".[112] Indeed the plan inflamed fishers. It included, for example, gear modifications in areas where whales do not go.[113] The lobster fishery sought recourse through its Congressional representatives, who called for hearings. As a result, NMFS was strongly censured, and reactively produced a plan that essentially maintained the status quo.[114]

Subsequent action has seen a huge amount of money poured into those fisheries, through monitoring and gear modification schemes. Final regulations were published in the Federal Register in February 1999, and NGOs are now very closely monitoring the situation expecting whale mortalities to continue, at which time again the issue may be taken to court.

## The Pacific Offshore Cetacean

The Pacific Offshore Cetacean plan was intended to address the bycatch of pelagic cetaceans in the west coast driftnet, longline, and pair trawl fleets.[115] The Pacific driftnet fishery TRT was a very small group of 12. Though limited data presented difficulties, it was essentially a very tidy process: within 6 months, a consensus on how to reduce takes had been reached.

The Pacific Offshore Cetacean TRT submitted its draft plan to NMFS in August 1996. It recommended that nets be fished at a minimum depth of six fathoms, that a pinger experiment be conducted, that both California and Oregon reduce the number of inactive permits, and that skipper workshops be held to educate fishers about marine

110 Marine Mammal Commission (1997) *op. cit.* n81.

111 62 Fed. Reg. 39157 (1997).

112 Per. comm. Dr Sharon Young *op. cit.* n41.

113 For example the regulations extended all the way to the shoreline and into areas such as Naraganzet bay.

114 The 1998 plan included an increase in the efforts made to free any entangled right whales, the improvement of some fishing gear so as to prevent entanglement or to make it easier for the creature to disentangle itself (breakaway lines), and regulation through fishing closures in critical right whale habitat.

115 With respect to the driftnet fleet also a right whale had been caught.

mammals and solicit input for methods of take reduction. On 3 October 1997, NMFS promulgated regulations requiring training and gear modifications so as to minimise marine mammals injury and mortality.

## The Atlantic Offshore cetacean

The Atlantic Offshore Cetacean TRT was established to address cetacean take in Atlantic pelagic driftnet and longline fisheries. The offshore team in the Atlantic had its last meeting in 1997.

TRP strategies to reduce marine mammal take included the compilation of fishery, education and outreach materials. In the driftnet fishery, recommendations included a closure south of Hudson Canyon, allocation of a finite number of sets between extant fishers, limited entry, 100% observer coverage, and a buy-out program. The mid-Atlantic and Northeast Coast were concentrated on as the primary areas of bycatch for the longline fishery proposals, which included the reduction of line length, reverse retrieval of gear to maximise soak time, shift in fishing location after one marine mammal interaction by a vessel, increased observer coverage, and enhanced communications between fishers. The TRT also looked at pair trawl fisheries which, although not authorised at the time, were a potential future fishery. A series of conditions such as education for operators, gear specifications, and research on marine mammal behaviour around nets, were suggested.

In the event, the Atlantic offshore cetacean a final TRP was never released. This was because of the concurrent development of a swordfish, shark and tuna FMP. This FMP was crafted in consultation with the recommendations of the TRT. The majority of TRT recommendations were included in the FMP as requirements for permit holders. Thus coordination and the implementation of several legislative initiatives, all under an single plan, were achieved.[116]

The other major reason for this approach was that one of the main marine mammal interactions was removed part way through the TR process. The swordfish tuna driftnet fishery had been found to pose a jeopardy to right whales due to the take of one such marine mammal, and thus was closed through an emergency FCMA regulation, from 5 December 1996 to 26 November 1997. Early in November 1997, a NMFS proposal to close segments of the Atlantic Pelagic driftnet fishery through July 1998 was drafted. This also expanded the scope to cover shark and tuna target operations. The final rule was issued in December 1997. Thus a major component of what the Atlantic offshore team discussed, was no longer at issue. Subsequently, the

116 Per. comm. Laurie Allen *op. cit.* n85.

attribution of fault for mortality was altered, such that the first fishery that entangled a marine mammal was the one that would be held accountable for the mortality. Because the right whale was actually taken by two different fisheries and the gillnet fishery was the second fishery, the lobster fishery became responsible for the mortality.

After this decision the impetus for keeping the driftnet fishery closed was removed, and hence it was reopened without a TRP. Fishers were allowed to driftnet for ten days only due to their strict swordfish quota, and in that period 300 marine mammals and 25 turtles were killed. This placed the fishery at the limit of its ESA turtle take, and over PBR for beaked whales and dolphins. Indeed, surprise at the level of bycatch within the NMFS was so great, that one NGO representative received calls from four different people relaying the data but requesting anonymity.

Regardless of this bycatch, because the swordfish quota was not reached the fishery was to be reopened for an extended season. In response, HSUS drafted a temporary restraining order and presented this to the under secretary of Commerce with a threat to sue regarding both MMPA and FSA take limits, as well as the absence of a TRP. As a result of this action the fishery was shut permanently.

On 26 January 1999, swordfish driftnets were banned by NMFS in a rule stating the reason for this as the recent high marine mammal bycatch in the fishery.

The closure was, in part however, also because the lucrative nature of swordfish fishery, and the wealth of the longline fleet that competes for quota with the relatively small and vulnerable driftnet fishery. As one NGO representative explained

> the excuse was the bycatch but in fact it was a swordfish issue. Any of us who work with it know that. The thing I resent about that, is that when the Act [MMPA] is discussed fisheries can point to it and say it closed a fishery - when we know it was used to close a fishery but that that's not why.[117]

Three years later there is still no plan for the longline fleet. The issue was recently raised with the Secretary of Commerce, again with mention of a possible legal challenge.[118]

## Concluding Comments

The 1994 MMPA amendments altered the entire thrust of the Act, from a focus on the optimal sustainable population level, to an attempt to actually reduce bycatch in

117 Per. comm. Dr Sharon Young *op. cit.* n41.

118 The value of raising the issue within the bureaucracy before pursuing legal action is two fold. Firstly a negotiated solution may be presented, and secondly, if this fails, then the NGO's case is strengthened because an administrative record has been created.

commercial fisheries. The mandated level of PBR in the Act is, a fairly restrictive target, though one that is lenient and flexible enough to allow the majority of fisheries to continue. The amendments were particularly significant because, for the first time, they included a means for the reduction of the take of animals that were being killed over and above PBR. Up until that point, the Act had no mechanism for reducing bycatch, it simply stated the goal of bycatch reduction without elaboration.

The TR process by which the goals of the amendment act were to be facilitated provided for the influence of two key factors. The first was domestic players, and the second, science. Although the emphasis on science has allowed for inflated claims of uncertainty and thus at times has unnecessarily delayed the reduction of bycatch or acted as a stalling mechanism, it has by and large provided for the proactive tackling of bycatch issues without the need for a high level of public action. Moreover the manner in which science was used in the early stages — to propel an issue on to the policy agenda — has meant that many of the lower profile cases, such as those with restricted geographic scope or less public interest, have been afforded due attention.

Interestingly, the use of science in the search for technological solutions seems to have encouraged a better understanding between scientists and the industry, as increasingly industry is realising the potential offered by scientist's skills in creating gear alterations to mitigate bycatch, whilst allowing for continued viable fishing operations. This trend is well demonstrated in the creation of pingers as well as in the subsequent seabird bycatch scenario (described below).

Notwithstanding improved relations, the heavy reliance on data mandated in the TR scheme does not however guarantee a smooth process, in particular with respect to the role science plays in the second phase of the policy cycle. Even with a complete set of data, it is sometimes difficult to find workable management options. And conversely, the mere presence of information is insufficient safeguard to ensure a quality management decision.

Similarly to science, domestic players were afforded an increased role under the TR process. This was, in part, due to the central role of fishing interests, environmentalists, and animal welfare advocates in crafting the 1994 amendments — the subsequent system for reducing marine mammal mortality mandated the inclusion of these participants.

Benefit offered from the inclusion of fishers' in marine conservation policy formation was not only to be derived from reduced public conflict, but also from their significant insight and problem solving skills.

> Fishers have to believe that they can solve anything - if you don't believe that somehow you can solve anything, then you're insane to go out to sea

> in a fishing boat, in the middle of winter, hundred of miles from shore. You have to believe you can solve anything and that's the kind of person you have fishing, and those kinds of minds can come up with all sorts of solutions with the right incentives. And they know their fishery best.[119]

NGOs have always played a significant role in agenda raising and implementation aspects of marine mammal and bycatch issues. Through participation in the TR process, the Act has also opened the problem solving phase of the policy cycle up to NGOs. Not only is this more constructive for the organisation themselves, but it facilitates relationship building between NGO and fisher representatives.

Even within this revised and cooperative process, however, a significant amount of litigation still occurs. Indeed, the 1994 MMPA amendments, through their strict deadlines, have provided an easy means of pressing suits. The formalisation of the process has, however, decreased the complexity of suits brought, most being procedural and concentrated on agency adherence to legislative time-lines.

The issues have however at times become blurred, even under this rigorous and open process. As has occurred previously with other bycatch and conservation issues such as sea otters off the south west coast, marine mammals have been blamed as the reason for closures, when in reality, it was primarily a gear competition issue. Though not a problem, *per se*, this impacts upon NGO-fisher interactions as well as the public and political view of the organisations.

A final, interesting, observation, is that as the Act comes up for reauthorisation, a strange silence pervades. This is, perhaps, a reflection of a general acceptance of the extant negotiated legislation, and a belief that no great gains are available to any parties.

## 5.5 Seabird Bycatch

To recall, the issue of seabird bycatch was considered under the auspice of high seas driftnetting operations, in the international arena, in the 1980s. In the 1990s, two domestic seabird bycatch concerns emerged, close in both proximity and time to each other. These focused on gillnet and longline operations off the northwest coast.

### Incidental Take in Gillnets

Gillnetting concern originally focused on the take of marbled murrelet. These birds, as well as rhinoceros auklets, became most commonly entangled in sockeye salmon gillnets, because both feed by chasing fish underwater. The marbled murrelet had been listed under the ESA in the early 1990s. The reason for the bird's endangerment was

119 Per. comm. Dr Sharon Young *op. cit.* n41.

not fishers themselves, but rather habitat destruction caused by the logging of old growth forests, and the consequential loss of 90-95% of the bird's nesting and breeding habitat. Marbled murrelets were, however, also thought to become entangled in fishing nets when they feed. Although alone, gillnetting would have had little impact upon their population, given their already reduced numbers, any take was deemed significant.

Under the ESA, FWS is the lead agency for all avian species, and in August 1995 it released the draft recovery plan for the marbled murrelet and sought public comment. Although little mention was made of fishing impacts, the industry displayed considerable concern about the fate of these birds. The FWS in cooperation with fisher groups in the Washington State Puget Sound area, initiated two observer programs. In the event not a single marbled murrelet was captured in the gillnets![120]

There were however a large number of common murres and diving alceds taken. This bycatch had the potential to trigger the *Migratory Bird Treaty Act*: a highly restrictive regime which operates within the 12nm area. The MBTA prohibits the take of any birds, and thus the closure of the fishery was mooted as a potential outcome — a option some folk in the environmental and recreational fishing community were said to have favoured.[121]

The north west gillnet fishery is a low budget community fishery. Federal funding for bycatch mitigation was not available, and so the fishers approached University of Washington fish biologist Dr Ed Melvin for help. Within a few weeks, a pilot program began testing different gears. Fishermen worked weekends sewing together different kinds of nets and reconfigurations.[122]

The 1995/1996 study identified three potential means of reducing seabird bycatch in the Puget Sound drift gillnet fishery. The first of these was termed abundance-based

120 Per. comm. Dr Ed Melvin, Marine Fisheries Specialist, University of Washington/Washington Sea Grant Program, Seattle (WA), 2 April 1999.

121 This is well evidenced by I-640, an initiative at ballot in Washington State, that would have outlawed most forms of commercial fishing based on bycatch rates. In the U.S., initiatives provide a process by which voters can prepare a petition and if they get enough signatures it goes to ballot for a vote. I-640 was authored by a group called Save Our Sealife (SOS) which was a front for recreational fishing interests. Seabird bycatch in gillnets was their most potent weapon — and in their efforts, they even brought a suit against the Washington Department of Fish and Wildlife for allowing the fishery to take place. In the event, I-640 was soundly defeated, primarily because SOS grossly overstated the problems and it was very clear their interest was to gain a greater allocation of fish for recreational fishers. Indeed, almost all conservation NGO's allied themselves with the commercial fishermen to defeat the ban. Per. comm. Dr Ed Melvin, Marine Fisheries Specialist, University of Washington/Washington Sea Grant Program, e-mail communication 30 August 1999.

122 Per. Comm. Dr Ed Melvin *op. cit.* n120.

or ecosystem management, and utilised seasonal knowledge of seabird abundance.[123] The remainder relied upon gear modifications and diurnal patterns.

> The way these nets are fished they're fished from the surface down (drift gillnets), so we put some real visible webbing up in the top of the nets so that when birds came across the corkline they could look down and see trouble. And we also found that we caught lots of them right around sunrise, so eliminated sunrise fishing. We figured that by using these methods, and if they actually managed the fishery rationally, we could reduce bycatch by almost 3/4.[124]

The report concluded that using a combination of all three modifications, bycatch could be reduced by between 70 and 75 percent, with little loss in catch.[125] In 1998, the regulations were implemented fully in the fishery.[126]

## Incidental Take in Longlines

The incidental capture of birds in demersal longline fishing operations was also tackled under the ESA. Concerns were first raised in 1989 under a FWS biological opinion relating to the MMPA small take exemption, that also considered the impact of bycatch on other species including the short-tailed albatross. The short-tailed albatross is listed as endangered under the ESA. The biological opinion concluded that bycatch did pose a threat to the species, and required that reasonable and prudent mitigation measures be taken. This issue then seemed to slip off the agenda until the mid 1990s.

In 1995, the FWS issued an amendment to the original 1989 biological opinion and consultation, herein requesting observer data on sitings and fisheries interaction. Later that year a short-tailed albatross was taken in the Western gulf of Alaska. As was the case with murrelets, the culprits for the current endangered status of this bird were not the fishers. The short-tailed albatross suffered from plundering of its nests on the Japanese islands where they breed.[127] Blame was not the issue however, with only 300 short-tailed albatross left, any take was, once again, significant.

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123 The fishery was managed through the real time setting of openings, based upon fish abundance. When information was first collected on seabird abundance it was revealed that seabirds were migrating from Puget Sound, and becoming increasingly plentiful as they traveled north. They were then intercepting fish on their southern migration, and the fisheries managers were setting openings right where these two animals met. *Ibid.*

124 *Ibid.*

125 Melvin, E., Conquest, L. and Parrish, J., *Seabird Bycatch Reduction - New Tools for Puget Sound Drift Gillnet Salmon Fisheries: 1996 Sockeye and 1995 Salmon Test Fisheries* (Washington Sea Grant Program, Seattle, 1996).

126 Although the pressure has ebbed off some of the environmentalists are still in the background making quiet noises. Per. comm. Dr Ed Melvin *op. cit.* n120.

127 Supporting this theory is the comparative health of two other North Pacific albatross species: the black footed albatross which has over 60,000 breeding pairs, and the Laysan which has a healthy population.

The longliners had an advantage over many other industry organisations, in that their director was lawyer, and knew that taking an ESA listed species was of particular concern. A couple of months later, in early 1996, the fleet caught a second short-tailed albatross, and Thorn Smith of the North Pacific Longline Organisation (NPLA), became concerned. A meeting of NPLA members was called and they were alerted to the problem. The NPLA fishers were aware of the potentially severe impact of a clash with the environment community, which had to that date been unusually quiet regarding the problem of longlining bycatch.[128]

As had occurred with sea turtle bycatch, the fishers had difficulty conceptualising the problem because they so rarely caught albatross. The issue of bycatch, however, was not a new one to the longline fishers of this region: they had previously solved a problem of halibut bycatch.[129] The NPLA decided to model mitigation methods after the NMFS's Antarctic and Southern Ocean bycatch prevention regulations relating to the Convention on the Conservation of Antarctic Marine Living Resources.[130] The CCAMLR regulations were distributed to all the members, and the initiatives contained therein were discussed one by one, to determine which actions would be viable in the North Pacific. Additional gear modifications were also considered.

From this, a set of draft regulations was created. The NPLA followed the government process and sent out the regulations to all North Pacific longline associations and asked for comments.[131] This exercise was repeated three times: revised draft regulations were faxed out to the boats, and comments returned. Though the debate was on occasion acrimonious, Thorn Smith emerged from this process with a positive feeling about the industry's response.

> I think the most remarkable thing was that everybody agreed that yes it was time to do something — normally when you come to fishermen with a problem like this they are just as resistant as they can be, and it takes years. These guys just said 'yep gotta do something'.[132]

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128 This was in part, in recognition of the work that was being done by the fishermen in the area. NGO efforts were thus directed towards other problems perceived to be of a more urgent nature, including the bycatch of pelagic operations and longlining in warmer regions.

129 Halibut is the target species of another fishery. Thus the longline fleet needed to find a system that would ensure the live release of halibut. Through the use of gear modifications, they managed to cut halibut mortality by half. Per. comm. Thorn Smith, Executive Director, North Pacific Longline Association, Seattle (WA),1 April 1999.

130 See Chapter 1 for further discussion on the Commission for the Conservation of Antarctic Marine Living Resources 19 I.L.M. 841 (1980) (herafter "CCAMLR"). 61 Fed. Reg. 8438 (1996).

131 The regulations applied equally to both small and large vessels. There are 35 big and thousands of small longline vessels fishing in the Pacific Ocean. The only policy difference between the fleets is that the large vessels have 100% observer coverage and the smaller ones only 30% coverage. Per. comm. Thorn Smith *op.cit.* n129.

132 *Ibid.*

Subsequently, the NPLA petitioned the North Pacific FMC and requested that it adopt the regulations by recommendation of an emergency rule.[133] At its December 1996 meeting, the Council unanimously voted in favour of the mandatory use of bycatch mitigation gear on longlining vessels.[134] Prior to these emergency regulations becoming active, another short-tailed albatross mortality occurred.

In March 1997, FWS published proposed regulations under the ESA to govern the bycatch of seabirds in longlining operations.[135] The process involved a section 7 consultation between FWS (who had jurisdiction over the birds) and NMFS (as managers of the fishery). A biological opinion was issued, included in which was an incidental take statement for short-tailed albatross. The final rule required that the incidental take of short-tailed albatrosses be kept below one bird per calendar year. This was later expanded to two birds.

If this mortality rate were reached then the FWS would be required to resume negotiations with the NMFS. Vivian Mendenhall, a FWS scientist, commented that although no such severe steps have been considered to date, indeed the fishers' fear of closure was valid, in that one option would be the prohibition of longlining.[136]

It is important to note, however, that the two bird limit was not based on a scientific study of the species viability and the PBR as occurs under the MMPA. The two bird limit was reached by FWS in cooperation with the NPLA, by examining the historic catch. There had only been three known cases of short-tailed albatross take, and two had been in one year. The FWS thus concluded that historically two birds have been taken in one year without endangering the population and thus the limit was set.[137]

Analysis of data suggests that this figure could in fact be much greater. Data collected by a scientist who had worked for the FWS in the 1980s was modeled., and the result suggested that an estimated ten birds a year, for ten years, could be taken without effecting the recovery of the species.[138]

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133 The request for immediate approval of emergency regulations prior to the season's commencement was so as to allow fishers time to purchase or construct the gear they would need to fish in compliance therewith.

134 The provision passed by the FMC were essentially gear modifications, such as the use of bird bags, or streamers, or tori lines to deter the birds from the vessels. The rule was to remain in effect for 180 days or until permanent regulations were published.

135 62 Fed. Reg. 10016 (1997).

136 Reported in Matsen, B., "For the Birds" (1997) 77 *National Fisherman* 20.

137 Per. comm. Thorn Smith *op. cit.* n129.

138 *Ibid.*

In addition to the development of regulations, a concerted education campaign was undertaken as a cooperative effort by industry and government. [139] A year and half passed in which no birds were taken, then, in September 1998, two more short-tailed albatross were taken. By that time, the limit had been altered to allow the take of 4 birds over a two year period. Nonetheless, concern about the possibility of closure, led the NPLA to reassessed its mitigation measures. Extant arrangements appeared to be working very well for the smaller boats, but the freezer longliners had been less successful.[140]

In December 1998, the NPLA once again approached the FMC, this time to request it consider the use of lining tubes.[141] The devices were fairly controversial with the fishermen due both to their cost,[142] and their placement at the back of the boat where they had a tendency to develop problems.[143] Moreover, NMFS and FWS were hesitant to endorse the use of devices they had not trialed. One of the boats, however, agreed to install a lining tube as a trial. That vessel recorded very little bird bycatch.[144]

Meanwhile, NMFS committed to the creation of a research plan for seabird longline bycatch. According to Ed Melvin, who had been intimately involved with the gillnet issue, the process was somewhat unproductive as the agency refused to involve industry in the planning process, due to the concomitant requirement to also involve environmental representatives.[145]

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139 The FWS and NMFS provided some money, the NPLA received a grant from a private group, and Audubon contributed. A mailout was done, including:

- 12000 guides on birds, bycatch problem how to fix a tori line;
- 3000 copies of the book "Longline Fishing Dollars and Sense" in both Spanish and English;
- 11000 copies of a guide on how to identify the various species, along with lifesized beak profiles; and
- regulation translated into plain English.

140 There are a number of reasons that could explain these difference in bycatch mitigation results between the smaller and larger vessels. There may be more birds where freezer longliners focus their efforts, in the Berring Sea, which due to the heavy weather small boats tend to avoid; also the larger vessels shoot their bait from higher up, and hence the possible zone for hooking is larger; and finally the larger vessels shoot three times as many hooks a day than do the smaller boat.

141 Lining tubes are devices that set longlines underwater.

142 Installed lining tubes cost about $US45,000 or more.

143 In the southern hemisphere a lining tube ripped off a boat, and tore a hole in the bottom of it; per. comm. Thorn Smith *op. cit.* n129.

144 An alternate, more affordable device has been developed. A line shooter acts to drive the ground-line and pulls it through the auto-baiter at an even rate so that the line can be set slack, and hence will sink much easier. If successful this may prove a financially preferable solution to the problem, as these devices cost only $US10,000. Another idea is that of dying the bait blue so that the birds cannot see it, or developing an artificial bait that the target species will like but non-target species will not.

145 This refusal to involve industry led Dr Melvin to submit a successful research proposal on longline bycatch mitigation. Results are expected towards the end of 1999. Per. comm. Dr Ed Melvin *op. cit.* n120.

To be sure, the issue of sea bird bycatch on longline vessels had been on the Southern Hemisphere agenda for some time. In 1998 the U.S., Australia and Japan brought this into the international arena, where the issue was pursued under the auspice of the FAO. Efforts began with the March meeting of an FAO Technical Working Group, followed by several other meetings that same year.

On 15-19 February 1999, the 23rd session of the COFI met to consider proposals for, *inter alia*, the incidental take of seabirds in longlining operations. An action plan to minimise seabird bycatch in longline fisheries was adopted by UN member nations, with only two abstentions.[146] Herein the U.S., among others, was commended for the work it had undertaken towards seabird bycatch reduction.[147]

## The Emergence of the Longline Bycatch of Sea Turtle

Cases of ingestion of hooks, or entanglement, or external hooking of sea turtles in longline vessels, have been known to the scientific community since the early 1980s.[148] It is thought that the fishing location, depth of hook, and use of lightsticks to attract the target, all contributed to the catch rate of sea turtles.[149]

Both scientific uncertainties, and the multilateral nature of the problem, have made the longline take of sea turtles a difficult one to remedy. Because of the cumulative impact of longline fisheries on the highly migratory sea turtles, the impact of bycatch can be attributed to no single nation, and hence international cooperation is required.[150]

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146 Adoption of the plan was voluntary having been created under the auspice of the FAO Code of Conduct as envisaged by article 2(d), and relating directly to articles 7.6.9 and 8.5 of the Code. Code of Conduct *op.cit.* n10.

147 FAO, *International Plan of Action for Reducing Incidental Catch of Seabirds in Longline Fisheries* (Rome, FAO, 1999) paragraph 5.

148 Hillestad, H., Richardson, J., McVea Jr., C. and Watson Jr, J., "Worldwide Incidental Capture of Sea Turtles", in Bjorndal, K. (ed), *Biology and Conservation of Sea Turtles* (Smithsonian Institution Press, Washington DC, 1982) pp.489-495; Balaz, G., *Annotated Bibliography of Sea Turtles Taken by Longline Fishing Gear* (unpublished report, NMFS Southwest Fisheries Centre, Honolulu Laboratory, 1982); and Witzell, W., "The Incidental Capture of Sea Turtles in the Atlantic U.S. Fishery Conservation Zone by the Japanese Tuna Longline Fleet, 1978-81" (1984) 46 *Marine Fish Review* 56.

149 Anonymous, "News and Legal Briefs: Suit Filed to Protect Turtles of Hawaii" (1999) 84 *Marine Turtle Newsletter* 17 (source: Paul Achitoff, Earthjustice Legal Defense Fund).

150 Nishemura and Nakahigashi estimated an annual capture of 21,200 sea turtles with a mortality of 12,296 (primarily) loggerheads, in Japanese Western Pacific and South China Sea tuna fisheries. Crouse using data from Aguilar et al. estimated that take by the Spanish swordfish fleet in the Western Mediterranean was between 4,600 and 10,700 loggerhead sea turtles per annum. Aguilar, R., Mas, J. and Pastor, X., "Impact of Spanish Swordfish Longline Fisheries on the Loggerhead Sea Turtle *Caretta caretta* Population in the Western Mediterranean", paper presented at *Proceedings of the Twelfth Annual Workshop on Sea Turtle Biology and Conservation* (NMFS, Georgia, 1992) pp.1-9; Crouse, D., "The Consequences of Delayed Maturity in a Human-Dominated World" (1999) 23 *American Fisheries Society Symposium* (in press); and Nishemura, W. and Nakahigashi, S., "Incidental Capture of Sea Turtles by Japanese Research and Training Vessels: Results of a Questionnaire" (1990) 51 *Marine Turtle Newsletter* 1.

Sea turtle mortality in longlines is a combination of loggerheads who tend to swallow the hooks and get snagged but do not immediately die because they can reach the surface due to the length of the gangent,

*continued over page*

Moreover, the longline bycatch turtle problem is not so much that of mortality, but rather, serious injury: U.S. observer reports read, for example, "hook in mouth, swimming sluggishly".[151] Animals that are caught are commonly released alive, but the long-term survival rate is uncertain, the only study done suggested a 30% post-catch and release mortality rate.[152] NMFS suggests that each year there are thousands of sea turtles subject to non-lethal take, though these figures are little more than a rough estimate.[153] And, due to the delayed maturity of sea turtles, the effect of such activities may not be apparent for some time yet.[154]

Between 1989 and 1991 longlining in Hawaii increased markedly,[155] thus resulting in the incidental capture of hundreds of sea turtles.[156] Frustration over the lack of action by NMFS, led, in February 1999, to the CMC and Sea Turtle Restoration Project (STRP)'s launch of a judicial challenge against NMFS in relation to the bycatch of sea turtles in longlining operations. Filed in the Federal District court of Hawaii, it was the first time the issue had been seriously raised on the public agenda. The suit sought to mitigate the incidental take of sea turtles in the 110 strong long line fleet operating in the U.S. EEZ north of Hawaii. The plaintiffs alleged that NMFS was in violation of the ESA by its failure to take action to conserve three species of turtle: the leatherback, the Olive Ridley and loggerheads. In response, the suit sought to compel NMFS, as defendant, to undertake an EIA, and to prepare a biological opinion of the fishery's impact on the sea turtles.

Shortly prior to, and anticipating the decision, NMFS announced its intention to prepare an EIS.[157] On 18 October 1999, Judge Ezra ruled in favour of the plaintiff, ordering that NMFS prepare an EIS. The ruling found that the harm done to turtles, through longline fishing in Hawaii waters, was "incalculable" and ordered the closure of

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and leatherbacks who don't swallow the hooks because they are not after the fish, they eat jellyfish instead, but who do get tangled in the lines. It is the loggerheads in particular that the post-hook mortality studies are focused on.

151 Per. comm. Dr Sharon Young *op. cit.* n41; per. comm. Laurie Allen *op. cit.* n85.

152 Aguilar et al. (1992) *op. cit.* n150. Thus recent section 7 ESA consultations have looked at the total number of turtles captured, and taken 30% of that figure as the allowable mortality level. Per. comm. Laurie Allen *op. cit.* n85.

153 Per. comm. Laurie Allen *op. cit.* n85.

154 Crouse (1999) *op. cit.* n150.

155 This increase followed the depletion of the Atlantic Swordfish stock by overfishing, and the consequential relocation of many swordfish longliners to Hawaii during the late 1980s. *Ibid.*

156 NMFS, *Endangered Species Act Section 7 Consultation Biological Opinion: Impacts of the Hawaii Longline Fishery on Listed Sea Turtles* (NMFS, Honolulu, 1993). It was estimated that in 1991 the Hawaii longline fishery took 752 turtles with 148 of these immediate mortalities.

157 "Court Finds Longing Fishery Violating Environmental Law, Orders Injunction" *Media Release*, Earthjustice, 20 October 1999.

thousands of square kilometers of Pacific Ocean to longliners while the EIS is being prepared.[158]

Although the focus to date has been on tropical waters, there are also documented takes of sea turtles in pelagic longline operations in northeastern waters, off Cape Cod.[159] It has been speculated that the problem in this region is as severe as in Hawaii.[160] The true extent remains unknown, as little gathering or analysis of data has occurred on either the east or west coasts[161] — it has been suggested, however, that the impact of longlining on sea turtle populations may be equal to the threat posed by trawling.[162]

## Concluding Comments

Considerable maturation of the bycatch issue and stakeholder relations is evidenced in the progressive action taken in respect of seabird bycatch in the North Pacific in the 1990s, especially when compared with the treatment of sea turtle bycatch a decade earlier. This is, perhaps, a recognition of the lack of demonstrable outcomes from the conflict and turmoil witnessed in the turtle-shrimp debate, though the cultural differences between these two regions are also of some significance.

The comparatively successful treatment of the seabird longline bycatch issue can be attributed to several factors. Firstly, is the familiarity of the issue. This applies in

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158 Per. comm. Dr Pam Plotkin, Senior Conservation Scientist, Centre for Marine Conservation, Washington DC, email communication 19 November 1999. "Court Closes Large Area of the Pacific to the Longline Fishery to Save Endangered Sea Turtles" *Press Release*, Earth Justice, CMC and STRP, 26 November 1999.

159 The northeast distant waters we get more turtles than down south even, because of the way the gulf stream goes up the Atlantic you get all these warm core rings way out in the middle of nowhere, and of course all the tuna and swordfish love those too and so all the big turtles are out there, its probably 50/50 loggerheads and leatherbacks. Per. comm. Laurie Allen *op. cit.* n85.

See also Gerrior, P., "Incidental Take of Sea Turtles in Northeast U.S. Waters" in Willians, P., Anninos, P., Plotkin, P., and Salvini, K., (ed), *Pelagic Longline Fishery — Sea turtle Interactions: Proceedings of an Industry, Academic and Government Experts, and Stakeholders Workshop held in Silver Spring Maryland, 24-25 May 1994*, NOAA Technical Memorandum NMFS-OPR-7 (NMFS, Washington DC, 1996).

160 Considerable controversy arose from the Hawaiian biological opinion on longlining impacts on sea turtles. As a result, the NMFS in Hawaii are currently conducting a post hooking mortality study. The study is in its third year and a report is expected soon. See Polovina, J., Kobayashi, D., Ellis, D., Saki, M. and Balaz, G., "Turtles on the Edge: Movement of Loggerhead Turtles (*Caretta caretta*) Along Oceanic Fronts in the Central North Pacific, 1997-1998", paper presented at *2nd ASEAN Symposium and Workshop on Sea Turtle Biology and Conservation: Beyond the Beach*, Kota Kinabalu, 15-17 July 1999 (University of Malaysia, Sarawak, in press).

161 The lack of attention to these issue areas of bycatch may be in part because the agency has been hesitant to tackle it due to the scale of the northeast longline fleet. Discussions on the fishery refer to balance of trade issues, and participants therein have considerable influence in Congress, due to the hundreds of thousands of dollars they contribute to Congressional campaigns. Per. comm. Dr Sharon Young *op. cit.* n41.

162 Per. comm. Dr Deborah Crouse, Biologist, Division of Endangered Species Fish and Wildlife Service (formerly with the CMC), Washington DC, 20 April 1999.

terms of bycatch in general — the longline fleet having already tackled a halibut bycatch problem with great success. Moreover, the issue of sea bird bycatch by longliners was not a new concern, the take of albatross having been well considered in Southern Ocean waters since the early 1990s.

In addition, in both cases of gillnetting and longlining, the rapid development or adaptation of mitigation gear, and the leadership in redressing the issue that was taken by the industries themselves, led to the rapid conclusion of the issue with a minimum of conflict. In both seabird bycatch issues, the lead role has been taken by industry in acknowledging the problem, and in devising technical adaptations for its solution. Thus demonstrating the advantages of a consultative process driven by industry themselves.

It was the threat of closure under the governing legislation, rather than any active persuasion by NGOs that facilitated such action. In part, the constructive response of industry reflects a greater familiarity with bycatch, and the removal of the perception that a bycatch concern is a death knoll to a fishery. Thus, rational consideration of the issue and options available occurred, moreover leading to a sense of empowerment for the fishery.

## 5.6 The Panama Declaration & IDCPA — redefining "dolphin-safe"

Although silent for some time, the tuna-dolphin issue never really left the political agenda, and in the 1990s controversy emerged with respect to dolphin-safe tuna labeling.

By the end of the 1980s, significant changes had occurred in the fishing and exporting patterns of many of the nations fishing in the ETP. Some countries refused to embargo friendly neighbours or trading partners.[163] And these and other tuna harvesting nations learned to survive with embargos: through the development of new markets,[164] increased domestic consumption,[165] and the circumvention of embargos through "not so kosher techniques".[166]

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163 For example the relationship between Costa Rica and Panama. Per comm. Dr Martin Hall *op. cit.* n35.

164 For example, the market in Spain has increased. *Ibid.*

165 For example, Mexico. *Ibid.*

166 Such techniques included for example diverting fish through several other countries before entering the U.S.. Adding to this were the difficulties that has surfaced associated with the labeling scheme whereunder an NG had been charged with monitoring the dolphin safe status of imported tuna, a task of monumental difficulty due to the flow of tuna throughout the world, and hence criticised as ineffectual. *Ibid.*

In addition, ecological concerns had begun to surface. As ecosystem management replaced ESD as a catchcry of the 1990s, the public denouncements of Dr Martin Hall and others, regarding the high bycatch of undersized fish species and endangered marine wildlife such as sea turtles that occur in log sets, began to be heard.[167]

## The GATT Tuna II Decision

Subsequent to Mexico's refusal to have set into precedent the GATT panel's tuna-dolphin decision, the EC and the Netherlands challenged the MMPA's intermediatory nation embargo.[168]

In 1993, the GATT released its verdict on the second tuna-dolphin case. As did its predecessor, the GATT panel found that the U.S. had violated its obligations under the Agreement by imposing an embargo on the said nations. This was based again on the imposed restriction being classified as quantitative under Article XI, and hence that the exceptions contained in Article XX did not allow for such action.

Its reasoning, however, differed substantially from that of the first panel. It applied a three step analysis to the issue of Article XX exceptions:

1. It firstly considered subsection (g) and whether dolphins were exhaustible natural resources that could be depleted. Finding in the affirmative it held that the MMPA was within the scope of policies covered by the exceptions. In so doing the panel in tuna-dolphin II reversed the first panel's decision that Article XX(g) can not be invoked to protect extraterritorial resources.
2. Secondly the panel considered whether the issue was related to the conservation of an exhaustible natural resource. In coming to its decision the panel made several observations: (1) that the U.S.'s tuna ban applied whether or not the particular tuna had been captured in association with dolphin mortalities, (2) the embargo was an attempt to change other nations conservation policies and if such did not occur then the conservation of the resource in question would not be achieved, and (3) thus that the embargos were aimed primarily at altering other nations internal laws not at the conservation of a resource.
3. Finally, the embargos with respect to Article XX(b) were examined. Using a similar process to point 2, the panel considered if the action sought was necessary to protect an animal's health, and if trade measures were necessary to achieve that

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167 Hall, M., "On Bycatches" (1996) 6 *Reviews in Fish Biology and Fisheries* 319; Hall, M., "Strategic Issues in Managing Fisheries Bycatch", in *Solving Bycatch: Considerations for Today and Tomorrow*, Alaska Sea Grant College Report No.96-03 (University of Alaska, Fairbanks, 1996) pp.29-32; and Hall, M. and Campa, M., "Solving the Tuna-Dolphin Problem in the Eastern Pacific Purse-Seine Fishery" (1999) *unpublished manuscript*.

168 GATT Dispute Settlement Panel, *United States – Restrictions on Imports of Tuna* DS29/R (circulated 16 June 1994 - not adopted), reprinted in 33 I.L.M. 839 (1994) (hereafter "tuna-dolphin II").

objective. Again the panel found against the U.S. that the embargo was not necessary in achieving the MMPA as it was directed at changing other nations' internal policies.

The U.S., in its defense, attempted to invoke Article XX(d) which allows for the creation of embargos where such are necessary for the achieving of an internal law or regulation. The GATT panel, however, found that, as the law that the secondary embargo was aimed at supporting had earlier been found to be GATT inconsistent, that this provision could not be used to support the use of other measures.

## The Panama Declaration and Dolphin-Safe Tuna Labeling

Following StarKist's 1990 introduction of the dolphin labeling scheme, all but six of the U.S. fleet's vessels moved to the Western Pacific, where tuna and dolphin do not habitually swim together. Thus, by 1994, the U.S. fleet's bycatch level had dropped to 104 takes. Under the auspice of the IDCP, the foreign fleet's bycatch had dropped too, measuring less than 4000 dolphins per annum.[169] With the issue having been again considered by the GATT, this dramatic drop in bycatch figures raised the question of whether the U.S. should maintain embargos on tuna. In 1995, the six ETP fishing nations party to the LaJolla Agreement, issued a joint declaration urging the U.S. government to take into consideration the achievements and success of the IDCP and lift the embargos imposed under the MMPA and modify the concept of dolphin-safe so as to include products caught in accordance with the LaJolla Agreement.[170]

To be sure, the ETP nations had made good-faith efforts to participate in the IDCP and had dramatically reduced dolphin bycatch. The anticipated recognition of these achievements had not, however, followed. In the absence of such action, these States threatened withdrawal from the Program.[171] Concerned that positive steps taken under the LaJolla Agreement were being eroded, a coalition of five NGOs entered into talks with Mexico to develop the framework for a new international agreement. This formed the basis for what was to become the Panama Declaration.[172]

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169 Marine Mammal Commission, *Annual Report to Congress* (Marine Mammal Commission, Washington DC,1995). Thus the DML was lowered to 9,300 for 1995.

170 See *Minutes of the 30th Intergovernmental Meeting on the Conservation of Tunas and Dolphins in the Eastern Pacific Ocean of the IATTC*, La Jolla, June 1995, Appendix 5. These nations are Colombia, Costa Rica, Mexico, Panama, Ecuador, and Venezuela.

171 Indeed, in 1996 Mexico suspended its active participation in the program, and was hence no longer bound by DMLs, though it agreed to continue to carry observers.

172 Declaration of Panama, See Minutes of the 30th Intergovernmental Meeting on the conservation of Tunas and Dolphins in the Eastern Pacific Ocean, of the IATTC, Panama City, Panama, 4 October 1995, Appendix 4.

The Declaration reaffirmed governments' commitment to the LaJolla Agreement, and announced an intention to formalise the IDCP as a legally binding treaty. It also altered the LaJolla Agreement by setting the elimination of all dolphin mortality in the ETP as an agreed goal, and, more immediately, lowered the total dolphin mortality limit (DML) to 5,000. Thirdly, within that limit, the Declaration also created new stock mortality limits to better protect all dolphin populations. The net limit and the species specifications meant that the total bycatch of dolphins was likely to be significantly less that than the permissible figure of 5,000.[173] The Declaration, however, made clear that its adoption into law was contingent upon the U.S. taking these earlier requested actions regarding the relaxation of its domestic laws.

The benefits offered by a legally binding treaty are significant, not the least of which concerns the issue of enforcement. It was hoped that the creation of the Agreement on the IDCP as an international law, would alter the following scenarios.

> Sometimes time lapses such a way that measures can't be adapted to sanction nations that have done poorly. So you go to court in a particular nation, and the captain has hired a lawyer, and they say he was seen by an observer. ... Who is an observer? What is an observer? That is not a police officer or interpol! He is a student at a university often. ...So who employed him to do this? An international organisation. .... So the domestic legal argument is difficult - he [the observer] does not have a legal role under the nation's Constitution so suddenly there is a complex legal position. ... We have heavy fines for offering bribes, and then we send the information to the countries and they say OK we will investigate, and then nothing happens.[174]

U.S. legislative action to implement the Panama Declaration, and hence make way for an Agreement on the IDCP, was thus initiated. The bill was primarily to amend MMPA provisions concerning tuna-dolphin interactions in the ETP. It also included provisions allowing U.S. vessels to once again participate in the lucrative ETP tuna fishery on an even plane with foreign vessels.[175] The bill had the support of the federal administrative departments and fishing industry bodies. Senator Barbara Boxer[176] a long time opponent to the process of setting on dolphins, sponsored an alternate bill. And thus the lines were drawn.

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173 Mary Beth West, Deputy Assistant Secretary for Oceans, Statement to the House Committee on Resources, Committee of Fisheries, Wildlife and Oceans, Washington DC, 9 April 1997. Indeed in 1998 the estimated dolphin take for foreign vessels was approximately 2000.

174 Per. comm. Dr Martin Hall *op. cit.* n35.

175 Mary Beth West, Deputy Assistant Secretary for Oceans, Statement to the House Committee on Resources, Committee of Fisheries, Wildlife and Oceans, Washington DC, 9 April 1997.

176 Barbara Boxer was a Representative in the House in 1990, by 1994 she had become a Senator, so although she was a junior senator she was a senior in the Congress. The tuna dolphin issue was a key platform to her.

In favour of the initial proposed legislation were over 100 recreational bodies and environmental NGOs, including the CMC, the WWF, the National Wildlife Federation, Greenpeace, and the Environmental Defenders Fund. It has been suggested that among the motivations that explain this shift in policy for some of the NGOs who supported the bill, was a desire for credibility and approval in Congress, a wish to garner international support, and a compromise for the sake of their projects, programs, and contacts in Latin America.[177]

Another explanation for some NGOs' concerted turn from the policy of a prohibition on setting on dolphins, was that the alternative fishing methods were increasingly being revealed as ecologically unsound.[178] Sets on objects result in the take much smaller fish than do sets on dolphins.[179] The result of removing animals at a pre-reproductive phase is that the number of offspring per animal becomes very low.[180] Tuna are very fecund, so that overfishing in the short term is not an issue, but it is a long term concern.[181] Indeed Dr Martin Hall of the IATTC secretariat believes that setting on dolphins is the most environmentally benign option, "the only way of fishing should be on dolphins, and we should ban all the other ways in theory."[182]

An equal number and calibre of environmental groups opposed the bill though, nicknaming it the "Dolphin Death Act". These included the Sierra Club, the Humane Society, People for the Ethical Treatment of Animals, and the Earth Island Institute.[183] To be sure, it was in this context that the tuna-dolphin issue became significantly an ethical, rather than scientific, debate.

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177 Per. comm. Dr Naomi Rose, Marine Mammal Scientist, Humane Society of the U.S., Washington DC, 16 April 1999.

178 Fish Aggregating Devices or FADs have been used for years in other fisheries (such as in the Philippines) since the discovery that fish are attracted to floating objects. Fishing on naturally floating objects in the ETP has not historically been significant, except for a short period in the mid to late 1970s. Significantly this corresponded to a marked decline in the tuna population.

179 Fish caught with FADs average 14cm 5lb compared to a 1-1.3m and 60-70lb minimum with those caught fishing on dolphins. Per. comm. Dr Martin Hall *op. cit.* n35.

180 In other oceans where FADs have been used intensively the stocks have crashed. The Atlantic and Indian Oceans have voluntary closure systems, which last about three months and cover huge areas of the ocean as a way to recover stocks from the previous fishing.

181 The yield per recruit (growth and age) is also problem. Yellowfin tuna's growth curve dictates that if you catch a fish that is 14cm long then the average yield for each individual in the fishery is ~2lb, if you allow the same fish to go to 80cm (1year) the production goes to 9lb. Thus in one year more than a doubling in size and weight occurs. In theory if you could catch only yellowfin that were one meter long the yield would be the largest.

182 In this regard, the 1995 San Jose Declaration states that "setting on dolphins is the most effective method of protecting the biodiversity and the marine ecosystem in the ETP". San Jose Declaration, July 14, 1995 (available from Conservation Biology Discussion Group, Message ID 41cr31$nun@newsbf02.news.aol.com).

183 Kronman, M., "'Dolphin-safe' redefined" (1997) October *National Fisherman* 10.

Due to the polarity of opinion presented by these usually allied groups, several Congressional members commented that they found the issue a particularly difficult one to address:

> We had a lot of trouble lobbying during the time there were two bills ...we'd get to the Hill and one of the other groups would have just left and they [Congressional members] would say "why are you guys fighting anyway, its very disturbing to us to see these environmental groups divided like this, it certainly harms your credibility".[184]

At issue was the definition of dolphin-safe. One opinion held that the old usage of dolphin-safe to mean that no net has been intentionally set around a dolphin for the entire fishing trip, had become obsolete. The premise upon which this claim was based was that in the seven years since embargos had been in place, foreign fleets had not ceased setting on dolphins. The proposed label redefined dolphin-safe such that it would refer to tuna sets in which no dolphins died.

One criticism of this proposed legislation was that only the actual kill of dolphins would be considered.[185] It did not take into account indirect impacts which would result in dolphin mortality, for example, serious injuries, predation by sharks and stress on the animals.[186] And thus, operations which resulted in mortalities from the indirect effects of purse-seining would, at law in the U.S., be permitted to claim dolphin-safe status for their tuna. It was this aspect of the legislation that was subject to the harshest criticisms.

> Eventually in the U.S. and the IATTC, the truth didn't matter - they didn't care what the biological facts said, they didn't care what the truth was or what was really the best solution, what they wanted were two things: they wanted to be allowed to set on dolphins because it is the cheapest easiest way of catching tuna, and they wanted the little blue label. Because it has become so entrenched in the public market mind, people buy canned tuna and look for that little label (at least in the U.S.) and if they don't see it they'll wonder why it isn't there.
>
> Put those two together then setting on dolphins has to become dolphin-safe - they have to spin, twist and permeate it so that it is dolphin-safe. And that is what all this has been in aid of. All the lobbying on the Hill and legislative debate has been in aid of creating the public view that setting nets on dolphins is dolphin-safe. And in a very basic common sense way, that is clearly absurd. Even if it doesn't kill them, it is not safe.[187]

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184 Per. comm. Dr Naomi Rose *op. cit.* n177.

185 This was emphasised by the definition of take under the MMPA, which included harassment. Regardless of the policy position taken, it was clear that setting on dolphins equated to harassment as defined at law. Because, however, of the inclusion of the entire ETP section of the MMPA under a separate part of the Act, the definitions of harassment taken for other marine mammals was not applicable in this situation. Thus the ETP is considered as alien, separate and unequal to the rest of the statute.

186 Kusabek et al. (1995) *op. cit.* n49.

187 Per. comm. Dr Naomi Rose *op. cit.* n177.

In 1996, Barbara Boxer and Joseph Biden threatened a filibuster to prevent any further consideration of the bill.[188] And in the last days of the 1996 Congressional Session, these two senators successfully blocked any attempts to have the bill unanimously passed. Key Congressional supporters of the bill pledged to reintroduce the legislation in the 1997 session. After protracted discussions on H.R. 408 and S. 39 a compromise was reached.[189]

Notwithstanding criticisms, the new legislation passed through Congress with overwhelming approval, and was signed into law by President Clinton on 15 August 1997. Although referred to as a "compromise" bill the *International Dolphin Conservation Program Act* (IDCPA) was strongly reminiscent of the original proposed statute.[190] The compromise component was essentially that implementation of the new definition would be delayed until March 1999 when the NMFS was due to release the findings of a study into the health of ETP dolphin stocks. If there was a finding of "significant adverse impacts" to depleted dolphin stocks, then the label definition was not to be changed. The study was to investigate not only direct mortality, but also the extent to which dolphins are traumatised by their experiences of purse-seines and the impact this has upon their reproductive capacity. A second requirement was notification to Congress of the creation and activation of the IDCP treaty.

The enactment of this legislation paved the way for negotiations on the Agreement on the IDCP, which commence in February 1998. In addition to the dolphin related provisions, the treaty also acted to consolidate the whole IATTC program. It introduced the concept of dealing with other bycatch species, with the precautionary approach, and ecosystem management, issues that have been attended to in other bycatch contexts.[191]

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188 A filibuster is a means of delaying passage of legislation. Its use in the U.S. Senate is made possible due to two characteristics of Senate standing rules. Firstly, the lack of time limits on individual Senators to debate; and secondly the absence of any available motion by which a majority of Senators can bring the Senate to vote on approving a debatable motion, amendment or measure. For information on ending a filibuster through cloture procedure and other details of Senate floor procedure see Bach, S., *Senate Floor Procedure: A Summary* (Congressional Research Service, Washington DC, 1997)

189 The compromise Bill passed in Senate in a 99-0 vote, and by unanimous consent in the House.

190 *International Dolphin Conservation Program Act* of 1997, Pub. L. No. 105-42, 111 Stat 1122 (16 U.S.C. 1414).

191 For example approximately 100 sea turtles (mostly Olive Ridleys) are caught each year. Fatality is caused by the dropping of the turtles from a height and breaking of the carapace. Secondly they may drown if they are left underwater for an extended period of time. Solutions to avoid the sea turtle bycatch is the use of speed boats in the area where the net is going out, so as to spot the turtles, so the solution is do not let the turtles go high and release them when only two feet out of the water. IATTC has also begun resuscitation courses. Even though no official action has been taken, mortality has been decreased by roughly half.

In February 1999, the Agreement on the IDCP became active following its fourth ratification.[192] And on March 3, the Secretary of State provided certification of this to Congress.

One step still remained, that of the scientific review. Conflict arose between NMFS and IATTC regarding the validity and use of certain data. NMFS refused to use the IATTC data in its IDCPA assessment because it claimed the numbers were inaccurate due to concerns of misreporting, and inadequate consideration of the impacts of stress and fatigue on dolphins. Although IATTC acknowledged that these factors may have a considerable impact, even if the IATTC take levels were multiplied by a factor of 70 they would still be within the sustainable level. In the event, the report to Congress was submitted in April, the alteration to the new scheme was approved on the grounds that there was insufficient evidence to determine significant adverse impact.[193] In early May1999, the provisions of the IDCPA became active.

## Concluding Comments

Reassessment of the performance of ETP tuna harvesting nations, and recognition of their reduction in dolphin bycatch, as well as a change in the dominant scientific belief, led to a reassessment of the U.S.'s tuna-dolphin embargo policy. The 1990s witnessed a huge decrease in the number of dolphin mortalities caused by foreign purse seine tuna fleets in the ETP.

> What was done with the dolphins was a sum of things: it was not just technology, it was not just education, it was not just management, individual limits, NGO participation, cooperation and dialogue, industry, environmentalists. It was scientists communicating with fishermen, it was scientists communicating with NGOs and with industry, all those things happened together. It was not just one of them.[194]

These developments, and the unprecedented step of NGOs negotiating an agreement with foreign nations, led to the need to reconsider U.S. ETP policy. Indeed, though driven largely by international considerations and science, this is another example (as with the TR process) of NGOs taking a proactive stance in the policy development phase of the cycle.

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192 Agreement on the International Dolphin Conservation Program, text available at url: http://www.state.gov/www/global/oes/oceans/dolphin.html. Ratifying nations are the United States, Panama, Ecuador and Mexico.

193 Gerrodette, T., *Preliminary Estimates of 1998 Abundance of Four Dolphin Stocks in the Eastern Tropical Pacific*, Southwest Fisheries Science Center Administrative Report LJ-99-04 (NMFS, LaJolla, 1999). For further details of the International Dolphin Conservation Program survey of dolphins in the ETP, conducted by the Southwest Fisheries Science Center see url: http://swfsc.ucsd.edu/IDCPA/IDCPAfront.html.

194 Per. comm. Dr Martin Hall *op. cit.* n35.

Although it is national actions, not that of an international entity, that is at issue in this thesis, it is worthwhile to recall that IATTC was given a mandate to investigate and to reduce the take of dolphin, not to stop fishing in a particular way. Thus the emergence of information suggesting that the taking of marine mammals was only one of several bycatch issues to consider, and that alternate fishing techniques had an overall greater impact on the ecosystem, also contributed to IATTC's change in priorities. In this way, the IATTC's investigation of wider ecosystem conditions in turn impacted upon the U.S.'s policy development.

The issue of scientific uncertainly was, once again, a focus, as information that sets on dolphins were likely to have less severe environmental impact, than fishing on Fish Aggregating Devices. The result has been a war of science, with different people accusing each other of utilising incorrect ecological facts.

The debate over dolphin labeling that ensued, focused on not only scientific consideration, but also ethical concerns. The issue of whether the aim of the U.S. Congress was sustainability or preservation was a question which would be answered by the shape of resultant legislation. Though NGOs had considerable involvement in the labeling debate, it is questionable as to whether, in their absence, the result would have differed at all. As with any diverse group, NGOs will not always be able to reach a consensus.

In the end, the decision was made largely on pragmatic terms, influenced by international tradeoffs. Indeed this is probably the most comprehensive example of a nation and an international community interacting together to achieve a mutually acceptable outcome. An agreement was forged, with the incentive of its elevation to treaty status, should the U.S. take certain action. The U.S., having legislated the particular action as requested, made this legislation subject to the carrying out of the original deal. The creation of the treaty saw the triggering of the activation of the U.S. legislation.

> Many other people want to hear the story, and the reason is that every one want to hear a success story and that they have learnt a lot, and so the methodology is transported along and is important. Reducing bycatch has to be seen as an incremental and cumulative solution to the problem, run as a campaign akin to a military operation.[195]

195 *Ibid.*

Indeed, other bycatch species, and issues such as ecosystem management, have been paid recent attention in the ETP. Even though no official action on sea turtle bycatch has been taken, mortality has been decreased by roughly half.[196]

This sort of proactive approach to bycatch of particular marine wildlife, mirrors that seen in the north pacific longline fishery. The solution was sought, or at the least the process underway, before public recognition of the problem occurred, and prior to the emergence of the common accusatory and adversarial scenario.

## 5.7 Achieving Marine Turtle Protection

In comparison to tuna-dolphin bycatch — where international issues and science maintained centre stage, and NGOs continued to hold an important but residual role from 1980 through to the 1990s — the main influences on the issue of turtle-shrimp bycatch have undergone a significant departure from their previous path. The dominant influences on sea turtle policy development during the 1980s were NGOs, industry bodies and science. The 1990s saw a radical departure from this, in part due to the shift from the formation into the implementation phase of the policy cycle. The influence of key industry and environmental players subsided, and reduced lobbying resulted in much reduced Congressional interest in the issue. The STRP emerged, with a mandate of ensuring enforcement of the laws, as opposed to the creation or alteration thereof. This role was played out in both the international and domestic arena. The second noteworthy change was the emergence of the issue onto the international arena: which resulted first in conflict, and then saw a gradual maturation of the issue, as a negotiated solution emerged. Similarly on the domestic level, in addition to legal challenge, parties have also sought a more productive solution. This loosely followed the domestic tuna-dolphin labeling model. Although the endangered status of sea turtles removed some of the philosophical considerations that have plagued tuna-dolphin labels, this marketing scheme has proved to be much more problematic for practical implementation.

### Unilateral Embargoes and Domestic Action

To recall, section 609 was enacted on the 21 November 1989, and placed two requirements upon the Secretary of State. The first was to embargo those nations that imported shrimp but did not have protective harvesting requirements for sea turtles equivalent to U.S. standards. The second, required the Secretary of State to negotiate measures to ensure sea turtle protection by shrimp harvesting nations.

196 Sea turtle ETP purse-seine bycatch has been reduced from about 40 to 20 animals every 1000 sets. *Ibid.*

With regard to the placement of embargoes on nations which did not meet U.S. standards, the Department of State decided in 1991 to limit this provision to nations in the Caribbean region.[197] The official basis for this decision was that these were the areas where U.S. turtles migrated through. As section 609 was to be applied only to those species that were protected by United States regulations, that is only those species of turtles that were found in U.S. waters, the law was interpreted to mean that if the turtles were not part of the U.S. migratory stock, then there was no benefit to the nation in protecting them. It has otherwise been suggested, though, that the decision was political, and intended primarily to prevent the trade disruptions that may have accompanied widespread embargoes.[198] Indeed, other agencies engaged in the discussion about how to interpret the law when it first was passed, opposed the State Department's decision to geographically limit the law's application.[199]

Of the 16 shrimp harvesting Caribbean nations, only two were using methods that did not endanger turtles to the U.S.'s satisfaction. The remaining 14 were not found to have provisions which met the comparability test and thus were embargoed under the new law.

To achieve comparability a commercial shrimp vessel was required to use TEDs in all trawls, with turtle exclusion as effective as that of the U.S. — that is a 97 percent turtle exclusion rate. Moreover regulatory programs had to have reasonable enforcement, monitoring and penalties. Notwithstanding the inability of 14 of the nations to meet these requirements the Department stalled its enforcement of section 609, and affected nations were granted three years to bring their regulations up to U.S. standards. Thus under this arrangement, by 1994 TEDs were to be installed on all shrimp trawlers. Most countries did not seem to have difficulties gaining certification, and by 1997 12 of the 14 nations were certified as being in compliance with section 609.[200]

Meanwhile environmental groups, unsatisfied by the limited geographical application of section 609, sought remedy through the courts. The STRP (EII) was created in 1988

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197 58 Fed. Reg. 9015-16 (1993).

198 Kaczka, D., "A Primer on the Shrimp-Sea Turtle Controversy" (1997) 6 *RECIEL* 171; Donnelly, M., "Evolution of the Western Hemisphere Sea Turtle Treaty" (1996) 72 *Marine Turtle Newsletter* 18.

199 Per. comm. Jay Johnston, Assistant General Counsel, Department of Commerce, NOAA, Washington DC, 16 April 1999.

200 There are questions about the rigour as well as the validity, of some nations' compliance to the standards set forth in this law. Preliminary evidence in a study commissioned by the National Wildlife Federation in Washington DC suggests that the number of nations certified under section 609 is not a true reflection of those countries that maintain standards for mitigating sea turtle bycatch in commercial shrimp trawling operations that are equivalent to the TED program in the U.S.. Per. comm. Dr Jack Frazier, Research Associate, Conservation and Research Centre, Smithsonian Institute, Royal Front (VA), email communications October/November 1999.

in direct response to the federal government's perceived poor performance in sea turtle conservation.[201] EII acted as lead plaintiff in this, and subsequent ongoing section 609 interpretation actions.

Hesitant after the GATT tuna-dolphin panel decision to bring an environmental suit before a specialist trade court, NGOs sought in February 1992 to be heard before the federal district court in San Francisco.[202] The defendant — the Department of State — tackled the challenge by contending that the issue was outside of the court's jurisdiction, and that, by virtue of the 1980 *Custom Court Act*, the Court of International Trade in New York City had exclusive jurisdiction over cases concerning import and export restrictions.[203]

In the opinion of many environmentalists, the CIT favoured the same pro-trade ideological inclinations as the GATT panel. Thus the plaintiff NGOs disputed the appropriateness of the forum of the CIT for determining what they claimed to be an environmental issue, rather than a trade barrier. The Ninth Circuit Court of Appeals upheld the federal district court's dismissal of the EII's contention, and found that the legal questions raised concerning the ESA's section 609 shrimp embargo provisions were clearly within the exclusive jurisdiction of the CIT.[204]

As a result of the Ninth Circuit Court of Appeals' decision, the EII's only course of legal redress was to be found with the court of trade. A 1995 case had provided encouragement that the CIT had some conservation sympathies though.[205] Thus, in 1995, the EII lodged a challenge to the government's decision to limit the application of section 609 to Atlantic and Caribbean shrimp fishing nations, claiming that the

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201 Per. comm. Peter Fugazzotto *op. cit.* n34. The Sea Turtle Restoration Project (STRP), operated until 1999 under the auspice of Earth Island Institute (EII).

202 Kibel, P., "Justice for the Sea Turtle: Marine Conservation and the Court of International Trade" (1996) 15 *Journal of Environmental Law* 57.

203 *Customs Court Act* of 1980, Pub. L. No. 96-417, 94 Stat. 1728 (1980), § 201. The Act had been passed in order to clarify jurisdictional uncertainties of its 1926 and 1970 predecessor laws, by providing exclusive (rather than concurrent) jurisdiction, as well as to expand the range of issues the court was charged with overseeing so as to include the fields of international tariff and embargo disputes in its bailiwick. Cong. Rec. 27,063 (1980).

204 *Earth Island Institute v. Christopher*, 913 F. Supp. 559 (Ct. Int'l Trade 1995) (hereafter "*EII v Christopher*").

205 *Florsheim Shoe Co. v. United States*, 880 F. Supp. 848 (Ct. Int'l Trade 1995). Herein the CIT upheld an import ban whereby the President had used the Pelly Amendment to restrict the importation of a product from a country engaged in trade of endangered species. Although the import ban was placed upon shoes made of Finnish Elk - not itself an endangered species - the country of origin, Taiwan was a major importer of rhinoceros and tiger body parts, animals acknowledged as endangered under the 1972 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES). The plaintiff argued that the Pelly Amendment only allowed for bans on products that originated from within its own boarders. The CIT strongly rejected this argument, and upheld the validity of the ban imposed under the Pelly Amendment, and went as far as to condone the behaviour of Taiwan as covert to the intent of CITES.

resultant inaction in other regions was inconsistent with the intent of the law.[206] In its complaint EII sought two remedies: firstly an order compelling the State Department to initiate negotiations regarding sea turtle protection with all foreign governments that export shrimp to the U.S.; and secondly an order compelling the State Department, as well as other federal agencies, to apply shrimp certification requirements to all foreign countries, regardless of geographic location.[207]

The government's defense was based firstly upon standing rights, which were upheld for the EII.[208] The more substantive contention of the Department of State was that it had made a reasonable interpretation of section 609. The court's December verdict invoked an established test for assessing a defendant's claim to reasonable administrative interpretation of legislation. This required the court to determine whether the meaning of legislation was clear and unambiguous, irrespective of the agency's interpretation.[209] The CIT held that the meaning of the word "all", in the relation to the application of shrimp certification to all foreign nations, was plain enough. In finding for the plaintiff, the CIT held that the State Department had limited the intended geographic scope of the legislation, and that, as such, the interpretation was invalid.[210]

A second substantive argument raised by the State Department in an attempt to assert the validity of its limitation of geographical scope, was that the program, as established under the Act, conflicted with GATT trade rules. Hence it was claimed that the CIT should concur that the government's minimalist interpretation was necessary in order to avoid challenge or conflict under the GATT. The defense relied

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206 *EII v Christopher.*

207 Kibel (1996) *op. cit.* n202 at 65.

208 The defenses contention on standing was based primarily on the US Supreme Court ruling in *Lujan v. Defenders of Wildlife* (112 S. Ct. 2130 (1992)). Hereunder standing was denied to a NGO whose members had been engaged in scientific study of endangered species threatened by a proposed project. It was held that the interest was too speculative and the plaintiffs were unlikely to suffer imminent harm to their personal interests. Further Judge Scalia expressed that "[v]indicating the public interest ... is the function of Congress and the Chief Executive" (at 2145) (for discussion on *Lujan* see Sustein, C., "What's Standing After Lujan: of Citizen Suits, "Injuries", and Article III" (1992) 91 *Michigan Law Review* 163).

In *EII v Christopher* however the court, although within the analytical framework, departed from the spirit of the *Lujan* decision. The CIT found that EII demonstrated sufficient longstanding interest in sea turtle conservation, and also adequately demonstrated that the government's failure to implement § 609 presented an immediate and imminent danger to those interests, and that the relief sought would provide redress to the identified harm (*EII v Christopher* at 567).

209 Established in the case *Chevron v. Natural Resources Defense Council* 467 U.S. 837 (1984) at 845. If the meaning of the legislation was not found to be clear, then the second stage of the test required the court to uphold the agency's interpretation thereof, even if the court in considering the issue *de nova* would have opted for an alternate interpretation. In *EII v Christopher* however this second stage was not invoked.

210 *EII v Christopher* at 578-9.

upon precedents set in two earlier GATT panel decisions[211,212] regarding exceptions to the general agreement as they related to like treatment requirements (Article III) and prohibition of quantitative trade restrictions (Article XI).[213]

Although agreeing to the broad principle of minimizing international trade conflict, the court suggested that section 609's alleged conflict with the GATT was too speculative to warrant limiting the application of the shrimp certification program.[214]

It has been suggested that the CIT's finding in respect of the government's contentions relating to GATT, may have been motivated by broader concerns. There had been increasing dialogue, in both academic and popular press, regarding the legal distinctions drawn between the regulation of products and production methods, to the extent that it was suggested that in the GATT panels' recent treatments, Article III had been misunderstood and misapplied.[215] One opinion holds that

> [t]he differentiation between products and production processes cannot be sustained in an ecologically interdependent world. For example, to say a nation must accept an imported semiconductor because it physically resembles a domestically produced semiconductor is absurd if the

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211 The first panel decision related to Canadian restrictions on the export of unprocessed salmon and herring (*Canada Measures Affecting Exports of Unprocessed Herring and Salmon*, 22 March 1988, GATT B.I.S.D. (35th Supp.) at 98 (1989). Canada had argued that the provision under challenge was necessary to ensure the preservation of the market value of its domestic catches and that such was needed and closely related to the nation's efforts to prevent overfishing. Canada hence claimed processing requirements were justified under Articles XX(b) (measures necessary to protect human plant or animal life and health) and XX(g) (measures relating to the conservation of exhaustible natural resources). The GATT panel disagreed and held that the measure was, rather than based upon the protection of the stock, an attempt to protect the domestic fishing industry. For discussion see McDorman, T., "International Trade Law Meets International Fisheries Law: The Canadian/U.S. Salmon and Herring Dispute" (1990) 7 *International Arbitration* 107.

212 The second decision was that of the already reported US/Mexican tuna-dolphin controversy *Dispute Settlement Panel Report on United States Restriction on Imports of Tuna*, DS21/R (circulated 3 September 1991 - not adopted), reprinted at 30 I.L.M. 1594 (1991). For earlier discussion see Chapter Four, section 4.7 "International Reaction to Dolphin Bycatch Import Requirements".

213 From these cases the defense drew three points:

- that a distinction must be made between the application of Article III's like treatment requirements in that these apply only to products and not production methods;
- that if a national conservation measure provides significant economic benefits to a national industry it may violate GATT even if it also has conservation goals; and
- that national policies that aim to force other nations to alter their environmental policies are not justified under Article XX(g).

See Kibel (1996) *op. cit.* n202.

214 *Ibid.*

215 For a comprehensive discussion see Charnovitz, S., "Green Roots, Bad Pruning: GATT Rules and their Application to Environmental Trade Measures" (1994) 7 *Tulane Environmental Law Journal* 299. See also Hurlock, M., "Law and the Environment: A Proposal to Amend the GATT in Light of the Tuna/Dolphin Decision" (1992) 92 *Colombia Law Review* 2098; Porter, S., "The Tuna/Dolphin Controversy: Can the GATT Become Environmentally-Friendly?" (1992) 5 *The Georgetown International Environmental Law Review* 91; *and* Southworth III, H., "GATT and the Environment" (1992) 23 *Vanderbilt Journal of International Law* 977.

For popular media coverage see "The Cruel Trade-Off", *The Guardian*, 11 September 1991; and "WTO's Knee-Jerk Decisions Harm Environment", *The Australian*, 27 May 1998.

> product was made in violation of the Montreal Protocol, restricting the use of chemicals harmful to the ozone layer.[216]

Indeed an examination of the background of the GATT suggests that it sought not to eliminate the use of trade restrictions to impose environmental or health requirements, but simply to establish a set of the rules under which such could be applied.[217]

On handing down its finding, the CIT proceeded then to issue a statement to compel the State, Commerce and Treasury Departments to implement an import ban upon all shrimp and shrimp based products from uncertified nations, by 1 May 1996.[218]

Two immediate responses to the CIT decision occurred: one by foreign nations, and the other by the U.S. federal government. In March 1996, the Association of Southeast Asian Nations (ASEAN), along with India, Pakistan, Hong Kong, Korea, Australia, Mexico and Venezuela, protested the U.S. ruling to the WTO.[219] In July 1996, Suvit Khunkitti, Thailand's Agriculture and Cooperatives Minister, issued a statement warning the U.S. to ease the ban or else the ASEAN members would raise the issue at the WTO's December 1996 meeting.[220] In the event only four nations, India, Malaysia, Pakistan, and Thailand, requested consultations.

Consultations occurred in November, wherein this coalition of nations argued the appropriateness of the U.S.'s attempts to impose its domestic policies, upon foreign nations, through import restriction. Unsatisfied with the outcome of consultations, these four nations requested the establishment of a dispute settlement board to consider the legality of section 609 embargos. Unlike the tuna-dolphin case, this was to be heard under the jurisdiction of the WTO, and not a GATT panel.

In April the following year, the WTO established a three person dispute resolution panel. Findings were passed down a little over twelve months later.[221] U.S. measures

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216 Esty, D., *Greening the GATT: Trade, Environment, and the Future* (1994) at 51, cited in Kibel (1996) *op. cit.* n202.

217 When the GATT was adopted in 1947 there were already numerous examples of trade measures based upon environmental and health concerns. Steve Charnovitz, director of Yale Global Environment and Trade Study maintains that the GATT intended to reaffirm the legitimacy of these measures, and that hence the issue is "not whether process standards are acceptable as trade rules. That was settled decades age. This issue is what specific standards are appropriate." Charnovitz, S., "Environmental Harmonization and Trade Policy" in *Trade and the Environment: Law, Economics and Policy* (1993) at 269-70, cited in Kibel (1996) *op. cit.* n202.

218 *EII v Christopher*, at 579-80. Or not listed on sea turtles and hence not covered under the section 609 regulations regarding requirements of certain levels of sea turtle protection in order to be granted certification.

219 Batcki, C., "Trade War over Turtles?" (1996) Summer *Earth Island* at 9.

220 Kibel (1996) *op. cit.* n202.

221 World Trade Organization, *United States – Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/R (15 May 1998), reprinted in 37 I.L.M. 832 (1998).

were found to be inconsistent with Article XI of the GATT, which maintains that WTO members shall not impose import restrictions. The U.S. again argued that the measures fell within Articles XX(b) (relating to the protection of animal life or health) and XX(g).[222] The Panel however disputed these claims and insisted that the U.S. measures were an unjustifiable discrimination between nations and hence did not comply with the necessary conditions of the introductory sentence of Article XX.

The U.S. government reacted to the CIT decision by petitioning the court to consider a motion to extend the compliance deadline for an additional year, due to administrative considerations.[223] The court granted the petition be heard, then on 10 April 1996 considered and vehemently denied the government's requested postponement. CIT Judge Thomas Aquilino declared that

> § 609's mandate to negotiate as soon as possible and to apprise Congress not later than one year after the date of enactment hardly bespeaks an additional annum of delay more than six years after that date.[224]

Although he did not pursue any action, Judge Aquilino went so far as to suggest that the government's petition, based upon the "paucity of evidence offered in support of its motion", may warrant sanction under CIT Rule 11 which forbids parties from submitting motions that are primarily intended to "harass or to cause unnecessary delay or needless increase in the cost of litigation."[225]

The second response to the April 1996 CIT decision, was the State Department's promulgation of new regulations to implement the foreign shrimp certification program.[226] These regulations required shipment-by-shipment certification of shrimp caught with TEDs. They provided that all shipments of shrimp and shrimp products into the U.S. had to be accompanied by a declaration that the harvest was either under conditions that do not adversely affect sea turtles; or in waters subject to the jurisdiction of a nation currently certified by the President. The primary intent of this

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222 To recall XX(g) reads:

> Subject to the requirements that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ....
>
> (g) relating to the conservation of exhaustible resources if such measures are made effective in conjunction with restrictions on domestic production or consumption....

223 *Earth Island Institute v. Christopher*, 922 F. Supp. 616 (Ct. Int'l Trade 1996) (hereafter "*EII v Christopher (II)*").

224 *Ibid* at 625.

225 *Ibid* at 618 and 625 (quoting CIT Rule 11) respectively.

226 61 Fed. Reg. 173342 (1996).

shipment-by-shipment allowance scheme was to place the U.S. in compliance with the WTO ruling.[227]

Once again the Department of State's interpretation was met with resistance. The NMFS is on record as opposing a shipment-by-shipment basis on the grounds that such regulations would be completely unenforceable.[228] In addition, the Department of Commerce was of the opinion that greater turtle protection would be achieved by insisting that other governments adopt comparable policies.[229]

Once again, the EII sought redress from the CIT, filing a motion that the State Department regulations were in compliance with neither the original enactment, nor the two previous CIT determinations.[230] The plaintiff claimed that the regulations allowed for countries to evade the law's embargos by exporting shrimp caught by a few designated vessels equipped with TEDs, while maintaining a predominantly turtle unsafe fleet.[231] Yet again the CIT held for the plaintiff. The decision stated that shrimp or shrimp products that were not harvested by citizens or vessels from a certified nation could not enter the United States. In handing down this decision, Judge Aquilino remarked that

> they [the State Department] blame this litigation for their approach now. But the regime upon which it is based has governed them since May 1, 1991, and been part of the United States Code before then. Certainly they have had ample opportunity to propose, if not realise, legislative amelioration of what is now clearly perceived to be a daunting remedy. Perhaps the reason this has not happened is that the harm the remedy attempts to allay has been equally well-understood, by both President and the Congress.[232]

The defendants sought a stay of the Court's injunction that ordered the State Department to eliminate the provision whereby uncertified nations could import turtle-safe shrimp. On 25 November 1996 this was denied.[233] The opinion issued, however, did act to further clarify the October ruling. It determined that shrimp harvested by means not requiring TEDs (for example in aquaculture facilities or by using tow time restrictions) could be imported regardless of the nation's certification status, but that

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227 Kibel (1996) *op. cit.* n202 at 75.

228 NMFS is supposed to provide the technical guidance and the expertise, and don't implement the law in itself though are able to provide input into the process – the Department of State is responsible for implementing the law itself. Per. comm. Theresa Conant, Fisheries Biologist National Marine Fisheries Service (NMFS), Office of Protected Resources, Washington DC, 19 April 1999.

229 Per. comm. Jay Johnson *op. cit.* n199.

230 *Earth Island Institute v Christopher*, 942, F Supp. 579 (Ct. Int'l Trade 1996): No. 96-165, slip op. (Ct. Int'l Trade, 8 October 1996).

231 *Ibid* at 6 quoting Plaintiffs Memorandum of Points and Authorities at 3.

232 *Ibid* at 15-16.

233 *Earth Island Institute v. Christopher*, 948 F. Supp. 1062 (Ct. Int'l Trade 1996).

shrimp harvested in vessels using TEDs could only be imported if the nation of origin was certified under section 609.

## International Negotiations

Meanwhile, in the international arena, negotiations for a consensus sea turtle protection regime in the Americas had been commenced. In the U.S., this initiative was led by the Department of State. Obviously not relishing its new role as international enforcer of sea turtle preservation standards, and mindful of the CIT's requirement that it seek international sea turtle conservation action, the Department pursued a more cooperative arrangement. Reportedly, the U.S. government's strategy was to create a treaty that would automatically result in the certification of signatory nations. To this end, the State Department also approached several key NGOs, including the EII whom it was battling in the courts, and sought its general endorsement for the proposed treaty.[234]

Because of tensions created by U.S. shrimp embargos, Mexico's assistance was also sought. Mexico initially assumed the role of host and lead nation,[235] and remaining western hemisphere nations quickly saw the potential benefit of foregoing the annual certification process. Though negotiations for the Inter-American Convention for the Protection and Conservation of Sea Turtles (IAC)[236] were not entirely smooth, they took only four rounds. In September 1995, delegates from 24 South and Latin American and Caribbean nations, joined together. Aiding the process the FAO provided financial, technical and legal support to some of the negotiations.

In addition to government representatives, a number of members of the environment community were present throughout the negotiating process.[237] A number of NGOs however declined offers to participate, perceiving that in its initial genesis the Convention was related too closely related to section 609 and was a 'TEDs treaty', rather than a sea turtle agreement. Given the origins of the issue and the Convention —

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234 Per. comm. Todd Steiner Director Earth Island Institute (EII), Sea Turtle Restoration Project, San Francisco (CA), 30 March 1999; Per. comm. Dr Deborah Crouse *op. cit.* n162.

235 The original draft had been formulated after a 1994 meeting of the Latin American Organisation for Fisheries Development (OLDEPESCA; that is the Government group of Latin American nations formed primarily to discuss and find common positions on fisheries policies). Some reports suggest that this was written by the State Department and translated into Spanish then given to the Mexican government. Per. comm. Todd Steiner *op. cit.* n234.

236 Initially named the "Convention for the Protection and Conservation of Sea Turtles in the Western Hemisphere". Text of the Inter-American Convention for the Protection and Conservation of Sea Turtles (hereafter "IAC") available at url: http://www.seaturtle.org/iac/>.

237 This occurred through membership on delegations and in later meetings as observers. For example Marydele Donnoly of CMC was included in all four of the U.S.'s negotiating delegations. Per. comm. Dr Jack Frazier, Research Associate, Conservation and Research Centre, Smithsonian Institute, Kota Kinabalu, Malaysia, 16 July 1999; Per. Comm. Dr Deborah Crouse *op. cit.* n162.

including a long and beleaguered history of domestic TED regulations — it is perhaps not surprising that some NGOs and scientists were skeptical of the merits of the Convention.

In the event, the IAC evolved to become a much more comprehensive arrangement. A turning point for NGO support was the consideration of the Convention at the meeting of the Latin American Reunion, and the passage of a Resolution of Endorsement and recommendations that followed.[238] At the third and fourth meetings of Convention negotiations, in April and September 1996, there was a marked increase in attendance by NGO representatives and scientists. Due to this dilution of fishing interests by the participation of these other communities, the text of the draft Convention was significantly revised. In its final form it created a scientific committee, introduced the concept of user pays, and endorsed a habitat approach.

The final version of the Convention was aimed at the

> protection, conservation and recovery of sea turtle populations and the habitat on which they depend, based on the best available scientific evidence, taking into account the environmental, socio-economic and cultural characteristics of the Parties.[239]

Under the Convention, the use of TEDs was mandated so as to prevent sea turtle bycatch in all bar a few rare circumstances. These TED requirements were placed in an Annex rather than the body of the treaty text: thus alterations could be made by consensus at any subsequent meeting of the Parties. Each nation was assigned responsibility for the enforcement of TED regulations within its own boarders.[240]

Significant opposition to the use of trade related sanctions was also voiced in negotiating meetings. This was manifested in the requirement that all parties act in accordance with the provisions of the Agreement establishing the WTO, as adopted in Marrakesh.

The IAC was opened for signature on 1 December 1996. It was to remain open until 31 December 1998, and required the ratification of at least eight member parties before becoming active.[241] The U.S government signed the treaty on the 13 December 1996.

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238 Frazier, J., *Documentos de la Reunion del Grupo de Especialistas de Tortugas Marinas de Latinoamerica* (1996) at 1. At the 16th Annual Sea Turtle Symposium this document was passed in a formal resolution.

239 IAC, article II.

240 *Ibid*, article III. The geographical range was to include all land territories in the Americas and regional waters over which the signatories exercised sovereignty.

241 *Ibid*, article XXII. The eight required ratifications have not as yet been achieved, and as such, the precedent set by the Inter-American Convention is yet to be determined, the Convention is imperfect and there remain many unknowns. Indeed it is in may ways a test case, using a flagship species as a means of injecting responsibility into industrialised fisheries. Bache, S., "International Bycatch Policy: Impacts and Lessons for the South-East Asian Nations", paper presented at *2nd ASEAN Symposium and*

*continued over page*

In May 1998, President Clinton transmitted the IAC to Senate for ratification, along with a report prepared by the Secretary of State. The IAC had gained a powerful ally in the Chair of the Senate foreign relations committee, who had not traditionally been interested in environmental treaties.[242] Although anticipated to have received quicker passage, the process's delayed can be, in part, attributed to external factors, such as the "Monicagate" issue.[243]

Perhaps with mind to a WTO appeal, in June 1998 the Department of State appealed the decision in *EII v Christopher* to the Federal Court of Appeals.[244] The grounds of appeal were procedural rather than substantive, the Department claiming that the trial court lacked jurisdiction because the NGO plaintiffs had withdrawn their motion on which the court's decision had been based. The court found in favour of the Department and the October and November 1996 rulings were vacated. Thus on 28 August 1998 the Department of State reaffirmed its April 1996 regulations. New guidelines for the assessment of comparability and certification were issued, such that shrimp imports could be assessed on a shipment-by-shipment, rather than nation-by-nation, basis.[245]

The Department attempted to address concerns that nations that had been certified as comparable to the U.S. would abandon their programs given the new shipment-by-shipment assessment provisions, or that uncertified nations would see no benefit in expanding their policies, as their product was already granted U.S. import access. The Department stated its policy position that TEDs should be used wherever there is a danger of sea turtle bycatch, and that there was no evidence to suggest that a lack of incentive by the U.S. government would cause nations to revoke, or refrain from adopting such policies. However, in case of such an occurrence, the Department of State committed to reviewing the effect of the decision, every six months, over a three year period, and to redressing the decision should TED programs be abandoned or their adoption dwindle. Given the State Department's apparent approval of the widespread use of TEDs, its decision has been interpreted by and large as a reaction

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*Workshop on Sea Turtle Biology and Conservation: Beyond the Beach*, Kota Kinabalu, 15-17 July 1999 (University of Malaysia, Sarawak, in press).

242 Senator Helms authorised his staff to work on the treaty, and furthermore sent a letter to Secretary Albright indicating that was one of the few environmental treaties that he perceived as a priority and that the Senate would probably work on that session. Per. comm. Dr Deborah Crouse *op. cit.* n162.

243 *Ibid.*

244 *Earth Island Institute v. Albright*, 147 F. 3d 1352 (Fed. Cir. 1998).

245 Several additional alterations were also made. These included that, in order to prevent against fraud in nations that were not certified, both the exporter and a government official were required to certify that the shrimp was harvested in a manner that did not effect sea turtles.

to and preempting of a WTO appellate decision.[246] Indeed, in July 1998, after two months of concerted NGO campaigning, the U.S. had lodged an appeal on the WTO's turtle-shrimp decision. This action was certainly encouraged, if not precipitated, by the receipt of more than 30,000 letters and phone calls to the White House.[247,248]

In August, the Appellate body heard both oral arguments by the parties and accepted three *amiss curtail* "friend of the court" briefs from NGOs.[249] In issuing its surprise findings on 12 October, the Appellate body largely rejected the Panel's original decision, describing its earlier interpretation as "a result abhorrent to the principles of interpretation we are bound to apply".[250] The Appellate body interpreted its governing Convention in light of its general preamble, which endorses sustainable development and environmental protection. They found that sea turtle were endangered world wide, that shrimping was the greatest source of mortality, and that TEDs were the best, inexpensive way to eliminate that mortality.

Although upholding the application of Article XX(g) to section 609, the Appellate body was essentially critical of the U.S.'s application of the law, saying that it resulted in arbitrary and unjustified discrimination against the four complainant nations. Its criticisms took issue with several aspects of the U.S. law, including that:

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246 Environmentalists point to pressure from the WTO as the motivation for the government's lowering of environmental protection standards.

> Its extremely disturbing that the State Department seems to be formulating policy based on the suggestions of an outside trade body... The shipment-by-shipment standard may be a trade solution, but it is an armageddon for sea turtles. ("Environmentalists File Suit to Protect Sea Turtles form New U.S. Guidelines which Open the Door for Sea Turtle Slaughter" *Press Release*, Sea Turtle Restoration Project, Earth Island Institute, 17 September 1998).

247 In May 1998 NGOs also launched a campaign where more than 30 organisation sent letters to President Clinton and more than 30,000 phone call were made to the White House urging an appeal to the WTO decision be lodged. (EII per comm.) Two advertisements were also taken out in the *New York Times*, berating the President's pro-trade stance and calling for greater consideration to be afforded to the environment.

The more activist tactics of some NGOs also received considerable attention. Though raising the profile of the WTO's decision domestically, their actual impact on international decisions can only be speculated. One particular incident was the throwing of cream pies at the director general of the WTO as he was leaving from a speech he had delivered defending the panel's turtle-shrimp decision. "WTO Director Hit by Cream Pies" *Associated Press*, 30 October 1998.

248 Letter from Mireille Cossy Secretary to the Panel on "United States – Import Prohibition on Certain Shrimp and Shrimp Products" to Mr Tim Eichenberg, Center for International Environmental Law, August 1997.

249 Initially when several NGOs sought to submit comments to the panel the Secretariat refused these requests on the grounds that the groups were not member parties to the WTO. Subsequent to an appeal it was determined that individual panels were the correct bodies to decide the issue of allowing *amicus curiae* briefs. This was based in part upon the Secretariat acting beyond their jurisdiction, and failing to provide the panel with the opportunity to solicit additional information as is provided under the WTO.

250 World Trade Organization, Report of the Appellate Body, *United States - Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, 12 October 1998, reprinted in 38 I.L.M. 118 (1998).

- the four complainant nations had received a significantly shorter compliance time than had other nations;
- insufficient account was taken of the conditions in the different nations from which the shrimp export originated; and
- that the U.S. had made inadequate efforts to secure international agreements with the complainant nations.

Subsequent to the decision by the dispute settlement body, the 132 member nations of the WTO adopted the decision by consensus on 6 November 1998.

Various government departments and U.S. trade representatives heralded the WTO appellate decision as a victory. Not everyone in the U.S. has applauded this decision however. The EII view the decision as having done little more than overrule the most heinous parts of the initial decisions.[251]

Meanwhile, NGOs had pursued several actions. On 16 November 1998, the EII, the Sierra Club, and the HSUS had filed a suit, again at the CIT, to compel the government to return to a nation-by-nation standard.[252] Their aim was again to mandate the requirement of national policies with levels of protection comparative to the U.S.'s, as a condition for shrimp importation. In April 1999, the CIT found in favour of the plaintiff.

In response, the State Department announced that it nonetheless did not intend to alter its certification process. It did, however, propose a new scheme whereunder harvesting nations wishing to export to the U.S. would be required to ensure that TEDs were used by all commercial shrimp trawl vessels operating as a distinct fishery, in a clearly defined area, large enough to yield a significant conservation benefit.[253] Although unlikely to be considered ideal by any of the stakeholders — governmental or citizen — this was a compromise proposal, and was the most likely scheme proffered to date that may have been acceptable to all involved. This was not, however, well received by NGOs and had not to date been given effect to. The Department has since announced its intention to re-appeal the CIT's decision.[254]

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251 Per. comm. Peter Fugazzotto *op. cit.* n34.

252 *Earth Island Institute* v. *Daley*, WL 224602 (Ct. Int'l Trade, 1999).

253 Department of State, *Draft Proposed Regional Approach*, (unpublished, Washington DC, July 1999).

254 Per. comm. Dr Jack Frazier *op. cit.* n237.

## Labeling: Turtle-Safe Shrimp

During the late 1980s and 1990s, the U.S. marketing community discovered that, by advertising products with particular environmental credentials, the sale of the product could be improved.[255] Environmental NGOs took this lesson, and adapted it, so that, through the offer of being set apart from their competitors, companies could be coerced into being more environmentally friendly. From the consumer's side, labeling campaigns allowed the buyer to decide what tradeoffs they were willing to make, between the economic cost they would incur to purchase an item, and the environmental impact they were willing to condone.

In theory, such programs allow for what economists describe as bringing an externality into the internal cost of the product. That is to say, the cost of the TED, or more correctly the cost of ensuring that shrimp is harvested with minimum turtle mortalities, is added into the cost of bringing the product to the table.[256] The processor is willing to pay extra for the shrimp because this allows access to a label which will fetch a greater price on the open market. The extra income that the shrimper earns for his/her catch then contributes to the cost associated with gear modification.

Insofar as domestic shrimp production, NGOs claimed that a number of vessels did not employ the use of TEDs, as evidenced by the large number of strandings seen each year during the shrimp harvesting season.[257] It is, to be sure, very difficult to attribute causes of strandings. NMFS, however, had determined that they are closely correlated to the Texas shrimping season.[258]

Although perhaps not common, violations did occur, and successful prosecutions were rare.[259] The situation is complicated however because TEDs are not designed to be

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255 Studies undertaken indicated that 94% of the U.S. population would make an effort to purchase goods from an environmentally aware company and of those 88% would be willing to pay higher prices for those products. Raines, J., "Environmental Law: The Green Giant, Environmental Marketing Claims" (1992) 45 *Oklahoma Law Review* 689.

256 Bache (1999) *op. cit.* n241.

257 In 1996, fearing that Texan bycatch management was failing to have an impact upon fishers practices, the EII and CMC brought suits in an attempt to tighten constraints on shrimp fishers and to close large areas. These were however dismissed, the court having found that most Texan fishers complied with the legislative requirements for TEDs to be used on all shrimping vessels. Per. comm. Jay Johnson *op. cit.* n199.

258 Texas waters are closed to shrimping out to 200nm every year as a fisheries management initiative in an attempt to build up shrimp stock, and as soon as they close the waters there are no strandings and as soon as the waters are opened a huge peak of strandings occurs, a trend repeated year after year after year. A very tight correlation can be seen, and the evidence according to one NMFS employee is indisputable. Per. comm. Theresa Conant *op. cit.* n228.

259 Increasingly NGOs are again blaming the NMFS for a lack action to ensure compliance with TED requirements by recalcitrant shrimpers, in particular in Texas (see Sea Turtle Restoration Project, Earth Island Institute, *Action Alert – Texas Turtle Tragedy* undated open letter from Todd Steiner). In 1998 following a high level of sea turtle strandings, the Coast Guard and NMFS began a program of night

*continued over page*

100% effective. Indeed, experts allowed for approximately 4000 mortalities under section 7 ESA negotiation.[260]

Disillusioned with the progress of the government and aware of the impact that the dolphin-safe tuna campaign had upon the industry, the public, and eventually legislators, the Earth Island Institute began promoting a similar scheme for turtle-safe shrimp.

The market-oriented approach to reducing sea turtle bycatch was launched through high level publicity, including full-page newspaper advertisements, public television service announcements, and the distribution of brochures. The aim was educational: to both inform the public about the problems of sea turtle bycatch, and to familiarise consumers with the turtle-safe shrimp seal.


The label was available to shrimpers who signed an agreement with EII that they would use TEDs properly, and allow monitoring by turtle-safe program observers. No fee was charged to participate. The initiative was adopted by several Georgia based fishers, and South Carolina operators have since joined the scheme. The first turtle-safe certified shrimp entered the market around August 1996.[261] Subsequently a turtle-safe advisory board consisting of fishers, dock owners, and environmentalists was formed. In the second year of the turtle-safe shrimp program, three major retailers and several smaller stores in the U.S. began to promote this form of shrimp, and numerous restaurants began offering it on their menus.[262] Many shrimpers however remained unconvinced of the merits of the program.

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boardings. From this exercise a Louisiana shrimp captain and vessel owner received a $6000 fine for sewing closed his TED.

A related problem that had arisen had been that of sea turtle mutilations. In this regard the industry bodies were also concerned, offering rewards for information that would lead to prosecution for such actions, "Seafood Industry Offers Rewards in Texas Sea Turtle Cases" *Press Release*, National Fisheries Institute, 1 December 1997.

260 Per. comm. Theresa Conant *op. cit.* n228.

261 By mid-1997 the President of the Georgia Shrimpers association and the bulk of South Georgia shrimpers were participating in the initiative. "Local Georgia Shrimpers to Appear on ABC Discovery News Regarding Turtle-Safe Shrimp" *Press Release*, Earth Island Institute, 26 August 1997.

262 The turtle safe shrimp campaign had more than eighty organisations with over six million members endorsing their campaign. Shore, T., "Certified Safe Shrimp Workshop" (1998) 82 *Marine Turtle Newsletter* 15.

Criticisms leveled at the turtle-safe program have come from both the fishing fraternity and government managers. The first of these is concerned chiefly with the level of compliance with the TED law currently practiced by U.S. shrimpers. All U.S. shrimp trawlers deemed by the government to pose a significant threat to sea turtles are required by law to use a TED in both state and federal waters. Moreover all wild catch shrimp imported into the U.S. is required to be turtle-safe. Thus the utility of labeling some shrimp as turtle-safe is brought into question. That is, if all shrimp caught in the U.S. are turtle-safe then why is there a separate scheme whereunder only a fraction of vessels are authorised to make such a claim. EII counter this criticism with the assertion that there is such a high level of TED non-compliance that entering into such agreements whereby the shrimpers view the use of TEDs as financially profitable, is of benefit to all concerned.[263]

The harshest critics of the scheme go further than questioning its necessity, and suggest that the turtle-safe scheme is simply a fund raising mechanism for those proffering the labels. This criticism is only partially valid: although certainly raising the organisation's profile, and potentially increasing its revenue through an increase in memberships, EII has stated that there is no charge levied to the fishers, the processors, or the merchants of the products.[264]

Another criticism leveled was that the turtle-safe shrimp label is very difficult to verify. That the label even needs verification assumes that a substantial level of non-compliance with TED laws does in fact occur, and hence that turtle-safe is not a characteristic of all shrimp sold in the U.S.. Given such a belief, then there would need to be sufficient safeguards in place so as to be able to ensure, to the satisfaction of consumers, that any product carrying a turtle-safe claim had been caught in a manner which was not harmful to turtles. With regard to shrimp, this is not a simple task. Unlike tuna, shrimp is not a canned product. It is sold fresh or frozen, and the attachment of a permanent verifiable label presents a problem. Moreover, instead of having several key processors, shrimp is supplied from countless small, often dockside, operations.[265] It has been contended that this dispersed processing regime makes it impossible with any level of confidence to verify that shrimp marked turtle-safe actually fulfils the claim. Other than through the threat of legal action for false marketing claims, it is impossible to prevent any individual from placing a label saying

263 Per. comm. Todd Steiner *op. cit.* n234.

264 *Ibid.*

265 An estimated 15000 individual, small scale operations exist in the Southeastern United States alone. United States International Trade Commission. *Conditions of Competition Affecting the U.S. Gulf and South Atlantic Shrimp Industry*, Report to the President on Investigation No. 332-201 (USITC Publication 1738, Washington DC, 1985).

"turtle friendly shrimp" on their package. Thus the eco-labeling of shrimp products presents a scenario open to a high level of fraudulent use of the labels.

An alternate labeling scheme has been recently initiated involving the North Pacific Seafood Processors Association. Instead of relying on a particular type of gear modification, this arrangement operates under the principles of responsible fishing, as are applicable to fishers, processors, aquaculture, importers and exporters.[266] The use of the label is contingent upon the preparation of a plan specifying how the elements contained in the code will be implemented.

## Concluding Comments

Although unilateral embargoes have had some success internationally in spreading the U.S.'s sea turtle conservation efforts, their impact has been limited by both international resistance and domestic failure to implement Congress's mandate. Indeed in the 1990s both national and international courts have played a significant role in sea turtle bycatch policy. In terms of domestic policy NGOs have once again used the courts to effect the implementation of a law that was not favoured by the department tasked therewith. Although the endpoint is not certain, this has clearly been a battle between the Department of State and NGOs.

Internationally the situation is also complex. The use of sanctions to implement domestic legislation abroad remains contentious on both ethical and on legal grounds. The WTO turtle-shrimp case followed on from the tuna-dolphin trials, albeit under a modified regime. The result of hearings initially followed the lead of these earlier findings, however on appeal a substantial reversal of policy occurred. Though still relegating environmental concerns as secondary to trade and tariff laws, the WTO appellate case has provided some additional leeway in the use of trade measures for conservation purposes. The appellate case may, however, have never come to trial if not for the concerted efforts of NGOs to raise the issue, and its importance, in both the public and political spheres — aiming their campaign directly at the White House.

It is important though, to recognise that the international situation is not uniformly characterised by U.S. application of its will upon reluctant foreign nations. Indeed almost contemporaneously with early American regulations, Indonesia introduced national TED requirements.[267] Moreover, considerable efforts had been made by foreign

266 Per. comm. Rod Moore, Executive Director West Coast Seafood Processors Association, Portland (OR), 31 March 1999.

267 In addition, some of the Latin American countries have been very progressive in protecting turtles, even before U.S. action commenced in respect of protecting beaches and prohibiting turtle or egg harvest. These nations adopted TEDs with a minimum of fuss, though to be sure, with other nations it was the economic pressure caused the adoption of TED technology. Per. comm. Jay Johnson *op. cit.* n199.

nations towards the use of TEDs in their shrimp fisheries, often in cooperation with U.S agencies.[268] An approach using encouragement rather than enforcement, and placing money into training programs rather than legal fees, may be a potentially more useful means of minimising bycatch.

Policy action that has had an impact on domestic sea turtle bycatch includes the assignment of appropriations to facilitate TED enforcement.[269] Indeed since the issue's emergence in the 1970s, the states of Texas and Louisiana have remained resistant to TED adoption. One suggestion is that this is due to the sympathetic nature of Congressmen and the state legislature: whereas where shrimpers have not perceived that their complaints would be pursued, they have been much more compliant.[270]

An alternate approach, initiated by an NGO, of a consumer based scheme, is undeniably a good one: based upon an essentially democratic market system, and displaying the desired principle of equity. Actual results are, however, yet to be seen.

During this period, the overall merit of focusing on a single threat was questioned by NGOs and scientists alike. The impacts upon sea turtles of other fishing methods make both turtle-safe shrimp labeling and sanctions somewhat incomplete remedies to the problem of sea turtle bycatch. For example, the impacts of both driftnetting and longlining upon sea turtle populations are of concern. Indeed, as was earlier suggested, the impact of longlining on sea turtle populations may be equal to the threat posed by trawling.[271] In addition to fishing, attention must be afforded to other impacts such as subsistence harvesting of sea turtles and habitat destruction.

One means of so doing evolved directly out of governmental concern over the effect of the annual certification process on regional relations. The introduction of a treaty, based initially on TEDs, expanded in the final negotiations to be a sea turtle conservation regime. It was the intervention of scientists in the first, and then the

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268 In 1994 a NMFS team from the Florida office led by Chuck Oravetz made two trips to India to conduct training and provide technology transfer. Pamela Plotkin, a ex-NMFS employee and researcher at the University of Delaware contends that the adversarial approach of sanctions has in the end been detrimental to the cause of turtle protection. Per. comm. Dr Pamela Plotkin, Associate Professor, Entomology & Applied Ecology, University of Delaware, Newark (DE),13 April 1999. See also Bache (1999) *op. cit.* n241.

269 A recently formed protected resources enforcement team equipped with their own vessels now parole regions where due to jurisdiction the coast Guard was unable to go. Previous reliance upon the Coast Guard meant vessels in state waters were unable to be boarded. The acquisition by NMFS of their own teams seems to have had a significant effect on non-compliance and hence sea turtle standings. Per. comm. Theresa Conant *op. cit.* n228.

270 Dual deputisation problems still exist in some states. Louisiana state law prohibits state officers from enforcing the federal regulations. Texas claims they can not use their officers due to Constitutional constraints. In comparison, states like Florida, South Carolina, Georgia when the Federal regulations were slowed in the late 1980s put in place their own state regulation saying as a cost of shrimping.

271 Crouse (1999) *op. cit.* n150.

broader acceptance of the convention by NGOs, that led to the marked alteration in the policy direction, so as to encompass this much broader range of concerns.

## 5.8 National Bycatch Provisions

By and large, NMFS activities to redress both fish and marine mammal bycatch have been piecemeal. In recent years, however, the inter-related nature of bycatch and overfishing have gained increasing recognition.[272] As John Witzig of the NMFS noted "There is much interplay between marine mammal bycatch and what happens to fisheries management".[273]

When, in the early 1990s, Roland Schmitten became assistant administrator for NOAA fisheries, one of his primary interests was the development of a comprehensive bycatch plan for the agency.[274] The need for this document was twofold. Firstly, although work was being done on gear development, technology transfer and management techniques, no coordinating overall long-term strategy to link these elements existed.[275] Secondly, there had been suggestions that the upcoming FCMA reauthorisation was likely to introduce the issue of bycatch, and the plan was intended to pre-empt this.[276]

Schmitten's interest in bycatch was largely restricted to incidental fish catches. This is well illustrated in the composition of the team charged with constructing the bycatch management plan, comprised of managers and scientists from all the regions. Although the agency initially proposed that marine wildlife representatives be included on the team, a directive was issued to limit participation to the exclusion of the protected resources managers.

The plan had a long gestation process: intended to take about ten months, in the event it took almost two and a half years to complete. As a prelude to the plan, a number of NMFS and NOAA sea grant sponsored workshops were arranged in 1992 through early 1995. The intent of this exercise was to encourage industry involvement and to identify common themes and issues which would benefit from a national plan, while at

272 Per. comm. Dr Steve Murawski, Lead Fisheries Scientist, Northeast Fisheries Science Centre, National Marine Fisheries Service, Woods Hole (MA), 7 April 1999.

273 Per. comm. Dr John Witzig, Chief, Fisheries Statistics Office, Northeast Region, National Marine Fisheries Service, Gloucester (MA), 5 April 1999.

274 Prior to recent developments, the regions were semi-autonomous in their handling of bycatch issues. They had addressed particular fisheries, and in a way were developing things that were somewhat parallel to each, but no coordinated arrangement or goals had been formed. *Ibid.*

275 National Marine Fisheries Service, *Managing the Nation's Bycatch: Priorities, Programs and Actions for the National Marine Fisheries Service* (Department of Commerce, Washington DC, 1998) (hereafter "Managing the Nation's Bycatch").

276 There had been a significant amount of interest in particular from Senator Ted Stevens in addressing bycatch in the reauthorisation of the FCMA.

the same time addressing bycatch issues on a region-by-region basis.[277] Indeed, the team was surprised when it began this process, to discover how little was known about bycatch.[278] In compiling the bycatch plan, NMFS thus gave priority to the task of information gathering.[279]

At the beginning of 1995, the NMFS team began to develop an internal policy for dealing with bycatch, and herein create a framework for major issue areas such as the need for quantitative data, outreach programs, education, and infrastructure building.

Early in 1996, the reauthorisation process for the renamed Magnuson-Stevens FCMA commenced. NGOs lobbied heavily on select issues, including bycatch.[280] The statute reauthorising the FCMA was entitled the *Sustainable Fisheries Act*, and was signed into law in October 1996.[281] Congressional amendments to the "national standards" highlighted, *inter alia*, the need for bycatch management.[282] National standard 9 required that within each fishery management plan:

> Conservation and management measures shall, to the extent practicable, (A) minimise bycatch and (B) to the extent bycatch can not be avoided, minimise the mortality of such bycatch.

The use of the phrase the "extent practicable" was chosen deliberately because Congress intended that the Councils should make reasonable efforts, but did not want to impose costs on fishermen and processors that could not be reasonably met.[283] It was however the FCMA definition of bycatch that raised the most concern. This was due both to its general restrictive nature,[284] and more specifically, with regard to marine

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277 Per. comm. John Witzig *op. cit.* n273.

278 Indeed one of the greatest problems pointed to in the report stemmed from this void of knowledge, and that in its absence "the issue is frequently driven by misconceptions, mistrust and inaccuracies. One of common trend from the series of workshops held, and that was noted in the draft plan, was the "dearth of credible scientific information to frame bycatch issues." Managing the Nation's Bycatch (1998) *op. cit.* n275 at 4.

279 Data on the "character and magnitude of the bycatch ... the population, ecosystem and socio-economic effects that bycatch or its mitigation" was needed. *Ibid* at 4.

280 Per. comm. John Witzig *op. cit.* n273.

281 *Sustainable Fisheries Act* of 1997, Pub L. No. 104-297, 110 Stat. 3559 (16 U.S.C. 1801).

282 National standards are the overall principles by which fishery conservation and management programs are developed and judged. A set of National standard guidelines then interpret the national standards and provide detailed guidance to the regional FMCs and act as a guide to the Secretary in the review and approval of the FMPs.

283 *Senate Report (Commerce, Science, and Transport Committee)* No. 104-277 [To accompany S39], reprinted in U.S.C.C.A.N. 4073 (1996), statement of Congressman Young.

284 *Sustainable Fisheries Act*, §1802(2), [s3(2)]. Altered at the last minute, according to the law as it stands, if a fish is caught and sold or kept for personal use it is not bycatch- this excludes any incidental catch that is kept in a directed fishery and is not in keeping with the traditional definition on what bycatch.

wildlife, because although it included sea turtles under its jurisdiction, marine mammals and sea birds were specifically excluded.[285]

In March 1997, NMFS released for public comment a draft bycatch management plan.[286] Comments received were critical of the plan's heavy orientation towards finfish take, and led to attempts in the final document to address marine wildlife considerations.[287]

The final document, Managing the Nation's Bycatch, is a decade long blueprint to guide the agency's research and management of bycatch related activities. It acknowledged that there is no single solution to the bycatch problem, but rather that fishers, managers, scientists, conservationists and other interest groups must work together towards a solution. It proposed seven national objectives, and outlined six actions needed to achieve these goals. These included bycatch monitoring and data collection programs; research into the selectivity of fishing gear and bycatch survival rate; investigations into the population, ecosystem, and socio-economic effects of bycatches; implementation and monitoring of bycatch management measures; and public and fisher education.

In part in reaction to Congress's restrictive interpretation of bycatch in the FCMA and national standard 9, the bycatch plan recognised the range of marine wildlife species including marine mammals, sea birds and sea turtles, and acknowledged its mandate to conserve, manage and protect these species as well as fish stocks.[288] A third category of mortality was also added to the definition, that being unobserved fishing practices, and gear interaction.[289] Although acknowledged as a progressive inclusion, the issue of unobserved mortality is also recognised as a very difficult one to address. Research has been identified as a first substantive step, necessary to quantify the magnitude of this mortality component.[290]

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285 As per the definition of "fish". FCMA, §1802(12), [s3(12)]. "Fish" is defined as "finfish, molluscs, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds" thus excluding all marine wildlife other than sea turtles.

286 Managing the Nation's Bycatch (1998) *op. cit.* n275.

287 Indeed the strategy goals identified in the final plan encompass the need for attention to all types of bycatch. Per. comm. John Witzig *op. cit.* n273.

288 The plan identified 149 species of bycatch and estimated that marine wildlife comprised 37% or one third of the total U.S. fisheries bycatch. That is to say that 50 species of marine wildlife are taken incidentally in fishing operations by U.S. fleets each year. Managing the Nation's Bycatch (1998) *op. cit.* n275.

289 As sea turtles are not excluded from the legislative definition, the inclusion of unobserved mortalities may apply to impacts of their bycatch of in longline operations.

290 Per. comm. John Witzig *op. cit.* n273.

Initial reactions to the report's release were very enthusiastic. Implementation, however, has been slow — by and large due to the absence of additional appropriations or allocation of time to facilitate completion of the task.[291]

## 5.9 Conclusions to the U.S. situation

In the U.S. the three phases of policy development, as characterised through the three chapters, can themselves be broadly considered as corresponding to the three phases in the policy cycle. That is:

- Chapter Three enunciates the raising of the issue onto the agenda and preliminary attempts to form policies therefor, such as the tuna-dolphin and turtle-shrimp consideration;
- Chapter Four is dominated by the creation of a new set of mechanisms, in particular in the international arena (for example the LaJolla Agreement and the dolphin-safe label); and
- as examined in Chapter Five, this was followed in the 1990s by a period of consolidation and implementation of both new and existing policy items into actual actions, as seen internationally in the IAC and Agreement on the IDCP, and domestically through the TR process and the rapid handling of seabird bycatch.

This is, of course, a crude simplification of the many intricate and intertwined events of the past three decades of marine wildlife, and more generally environmental policy development.

Bycatch, having gained recognition as an issue of valid attention, was able to turn its policy efforts in the second half of the 1990s, towards the consideration of the topic and issue more broadly, rather than being limited to individual fisheries and specific species. This reflects not only a maturation of the issue, but also a gradual shift in the philosophy underlying the priorities of many fishing operations: from a competition between development and the environment, to an understanding of the interrelated nature and mutual benefits that cooperation offers for protagonists on both sides.

### The Impact of NGOs

Perhaps one of the greatest transitions seen in the period from the 1980s to the 1990s was that of the entrance of NGOs as players in the formation phase of the policy cycle. This can be seen in several developments. Firstly, the EII's initiative in creating the turtle-safe shrimp labeling scheme, secondly in that of the inclusion of NGO

291 Indeed, when work on the plan began it was estimated that an additional $15 million a year was needed at a very base level. *Ibid.*

representatives on the TRT's mandated under the MMPA, and internationally in NGOs' role in negotiating the Panama Declaration.

Suggestions have also emerged that this increased role is a result of NMFS — though still considered by many to be a captive of the industry — becoming more sympathetic to NGO views than ever before. This is, perhaps, a reflection of the mainstreaming of environmental issues and, more specifically, the bycatch issue.

The increased role of NGOs in the policy creation phase, is not to suggest that they have deserted their traditional bastions of power: the courts and the legislature. These forums are still utilised by NGOs for agenda raising and policy implementation. In particular, the courts have been used by NGOs to steer the TR process in their desired direction.

This role of NGOs has, of late, due to the ease with which suits can be lodged under the time constraints imposed by the MMPA, been criticised as on occasion counter-productive. Though having a legitimate role in propelling issues that have stalled, and in motivating government when it becomes stuck in bureaucracy, at times NGOs may initiate a law suit that actually works to slow the process, because the people that are charged with the responding to the law suit are also the ones charged with the initial task. Perhaps, however, a long-term outcome will be recognition of the need for increased agency funding and personnel to attend these issues.

## Domestic Factors

The anticipated integration of the policies of the 1970s into a coordinated national policy in the 1980s failed to evolve: and in the absence of such a development, the 1990s were entered into without a framework in place and the task of creating one ahead. [292] More generally,

> President Clinton has encouraged the application of principles of entrepreneurial public organisations described by David Osborne and Ted Gaebler in *Reinventing Government*... letting the government steer rather than row; empowering communities rather than simply delivering services; encouraging competition rather than monopolies; driving by mission, not by rules; funding outcomes rather than inputs; meeting the needs of customers, not bureaucracy; investing in prevention rather than cure; and solving problems by leveraging the marketplace, rather than creating public programs.[293]

292 Kitsos, T., "Congress and the Oceans: Shaping Marine Policy for Three Decades" (1990) 22 *Marine Technology Society Journal* 33.

293 Foster, N., "The Magnuson Act: Expanding the Vision" (1993) 18 *Fisheries* 15 at 18.

Insofar as individual players in the bycatch policy issue, as in previous years, Congressional members have had the greatest influence. This is clearly displayed in regard to agency decisions made under the TR process that have paid heed to which members are in charge of appropriations. In the absence of a judicial determination, an action contrary to the will of members who control the future funding of programs would, quite simply, never have occurred.[294]

Relatedly, jurisdictional disputes between FWS and NMFS have over time dissipated, and increased cooperation has occurred.[295] Notwithstanding the NMFS and FWS adversary over shared sea turtle authority, of late the lines have become blurred. This maturation assisted in both the smooth passage of the U.S. bycatch action plan and the eventual re-inclusion of protected resources concerns.

Also of importance is the considerable dispersion seen in the voice offered by fishing representatives. Different sectors and different fishing interests have come out separately, to take a stand on their perceived rights, as opposed to the earlier consideration of fishers as a relatively homogenous interest group.[296]

Notwithstanding earlier comments regarding NGOs' continued utilisation of the courts and lobbying, one area that seems to have received less attention than in the past, is the media. This is, in part, explained by the perception of several NGOs that public interest has decreased: explained by a complacency in knowing the legislation is in place, and because "righteous indignation" can be sustained for only so long.[297]

## International Influences

The 1990s witnessed a tendency towards the removal of the reservation allowance in conventions and its replacement with a form of multi-national democracy or consensus decision-making. This was in part, due to a realisation of the globalisation of resources management and environmental issues, and their inter-dependant nature. It was also a reflection of an increased willingness to reduce sovereign control, in order to reach agreement between nations.

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294 Per. comm. Laurie Allen *op. cit.* n85.

295 The preamble to the plan highlighted Congress's role in the creation of provision dealing with bycatch in three key statutes — the FCMA, the MMPA and the ESA. It is from the use of these three statutes that the NMFS draws its role as the agency primarily responsible for bycatch reduction.

296 Sometimes in opposition have been the NFI an industry group focused on the interests of importers and exporters of fish products. Of less national significance have been the ATA but sectoral interests, such as the Georgia Fishermen's association or the NPLA, have emerged.

297 Per. comm. Dr Sharon Young *op. cit.* n41.

Within this, another interesting trend can be seen. Interaction between the U.S. and the international community has become more of a bargaining situation, than the previous scenario of the imposition of one nation's will upon others. As foreign nations have become accustomed to trade sanctions on their fisheries products, although still desiring access to the U.S. market, they have become no longer slave to it. In this way, foreign nations have acquired collective bargaining power. The use of this can be most clearly seen in the Panama Declaration and the Agreement on the IDCP, as well as the relevant U.S. legislation. In both situations the activation of various clauses were conditioned on the performance of the other party or parties in the negotiations. In this way, the will of international communities or allegiances have come to play a greater role in influencing U.S. policy, than they had previously done.

Also in the international arena, a change can be seen in the interaction between environment and trade. Although still very much in the process of formation and refinement, greater acknowledgment has been evident of the need to strike a balance between the international trends toward reducing protectionist actions, and creating greater environmental protection.

Still strongly held in the U.S. is the perception that unilateral economic sanctions are the single most effective means of making foreign states adopt stricter environmental standards. Supporting this belief is a strong coalition of NGOs and commercial fishers, as well as some labor unions, consumer advocates, animal rights advocates and industrial concerns. Since the election of President Clinton, these bodies have gained the attention of both Congress and the White House administration, leading to some prediction that such initiatives will accelerate in the future.[298] Indeed, the WTO turtle-shrimp appellate decision with regard to the application of section 609, has done nothing to discourage this approach.

### The Role of Science

With the maturation of bycatch as an issue, science has been able to play a greater role in policy development. This trend is reflected internationally, with regard to ecosystem consideration in tuna-dolphin management practices. In the U.S., the increased acceptance of science can be largely attributed to two developments. Firstly, data collection was mandated as a part of the take reduction process for marine mammals. In this way science has played an increased role in the second phase of the policy cycle — that of creating solutions. Second and relatedly, an increased acceptance by fishers of the use of technology based science as a means to create viable bycatch mitigation

298 McLaughlin (1994) *op. cit.* n27.

gear, has led to a reduced resistance of science's use more broadly in policy formation. The role of science, as an essential part of marine policy creation, has not however evolved so far as to become universally accepted.

In some situations, even getting a measure of bycatch remains problematic. This is, by and large, because an accurate picture of bycatch requires the placement of observers onboard vessels, but fishers are reluctant to have observers and appropriations for the purpose are vastly inadequate. Without observers, vessel data is unverifiable, and according to some fisheries managers, is not worth collecting.[299] Under the MMPA, there is a requirement for data collection, and the dilemma arises as to whether, by continuing to collect unverified data, scientific credibility is lent to it beyond that which is warranted, and increased pressure to use that information is applied. Science has continued to be used as an excuse for the failure to take action, as is seen in the case of the bottlenosed dolphin — and thus flying in the face of the current convention of a precautionary approach.

And indeed, scientists themselves appear to have become more active in their push to see the conversion of science into policy actions. This is witnessed in particular in the involvement of scientists in the IAC process. Though this can be considered a positive move reflecting a more proactive use of science, conversely such action could be perceived as further evidence of partisan bias by scientists. Both the tuna-dolphin and turtle-shrimp policy formation processes have been highly political, and some of the data supply and presentation was not necessarily driven by science. Instead, science was viewed as a tool for achieving certain aims, and the data was thus prohibited from telling its own story in a manner that would inform the public and allow them to make their own decisions.

Though some of what has been discussed in this and the preceding two chapters is enunciated in existing literature, several recent developments, trends and aspects unique to marine policy formation, have been poorly considered. Areas that have been paid considerably less attention than they warrant in theoretical literature include the role that has been played by industry bodies in marine bycatch policy formation, the increased use of science by NGOs, and the impact that individuals have on policy outcomes. These and other developments that have emerged in the progression of the issue of marine wildlife bycatch from a gear competition concern, to a genuine consideration of the problem itself, are outlined in the concluding chapter. Lessons that can be taken from this in depth examination of U.S. marine wildlife bycatch policy

299 Per. comm. John Witzig *op. cit.* n273.

development, and applied to the more formative Australian situation, are also discussed.

# Conclusion

## Introduction

This study has traced the development of marine wildlife bycatch policy in the U.S. with mind to the lessons that can be learn both in general and, more specifically, for Australia. The U.S. case-study began with the emergence of the issue in the late 1960s, and traced the issue's development through to the current early stages of a national bycatch policy. In particular, the research contained herein has explored the key influences on the initiation, creation and implementation of policy developments. Earlier work, by other authors, has reported some of these cases and analysed the legal or scientific bases; but a consideration of marine wildlife bycatch as a concise issue area has, to date, been lacking. Moreover, comprehension of the multiple lessons that can be taken from earlier and related cases, seems to have been missing in all bar a small number of these previous bycatch discussions and analyses. The examination of issues in isolation, such as the tuna-dolphin controversy, the turtle–shrimp dispute, albatross longline bycatch, or large scale driftnets, have often led to ad hoc generalisations of the ways in which the bycatch of marine wildlife species is handled.

In the Introduction, policy analysis was defined as both the description and explanation for the causes and consequences of government activity. Chapters Three through Five have provided an extensive description and explanation of the evolution of U.S. wildlife bycatch policy. The logic behind these detailed examinations is that only with a complete understanding of the events and causality of these, can the various factors and actions, and their influence on bycatch, be understood. Much can be learned of bycatch management, and indeed in more general terms, of both fisheries and other natural resources, by an examination of the evolution of bycatch policies. These lessons are not confined to the particular nation in question. By way of example, not only did those addressing sea bird longline bycatch off the northwest coast learn from the mismanagement and failure of U.S. implementation of TEDs, but also U.S. experience was used to highlight the pitfalls to be avoided in Australia's introduction of TEDs. It has become an anti-best practice model around the world.

The scheme laid out in Chapter Two, and followed through in the subsequent case studies, provides a framework with which to examine marine wildlife bycatch policy development, in a series of stages. It looks at the key factors or players in each stage, and the manner in which they have acted and evolved, either inhibiting or promoting policy developments.

This Chapter examines the four factors — international influences; non-governmental organisations; science in decision making; and domestic actors — and their role in each

stage of the cycle of bycatch policy development. A number of parameters and influence have either evolved since, or have simply been overlooked or paid insufficient attention, in earlier policy framework analyses. Included herein are the impacts of several aspects of what has previously been classified as domestic influence. Of particular significance is the role of industry bodies. Also affecting the policy outcome is the impact of the extent to which a society is litigious in nature. Another issue is the existence and nature of a functional funding framework for data collection and to aid in the development of bycatch mitigation techniques and their implementation, including observer coverage. With respect to international factors, new tools are emerging to deal with the trend of globalisation. NGOs have altered their approach to policy: both through the increased usage of high grade technical skills; and also through a shift in their goals, from the creation of policy, to advancing the implementation of existing mechanisms. Notwithstanding the dangers of co-option, this still appears to be a much sought after arrangement, having expanded from a domestic scheme to also being pursued in both the formation and implementation policy phases in international forums (e.g. The IAC and IATTC respectively). Finally, there is the role of science in policy creation. Although strong differences of opinion exist as to the appropriate role of science in the process of natural resource policy formation, this is, perhaps, the factor that has been best explained by extant literature. One recent alteration has been the changing shape of science itself, emerging from the increased interest in, and reliance on, ecosystem modeling and risk analyses.

As was stated in the Introduction, no attempt has been made in this thesis to evaluate, on its merits, each bycatch policy outcome. Instead the creation of a policy is determined by the simplified indicator of issue closure — where closure is taken as a point at which all stakeholders are accepting of the outcome, and the process of ongoing implementation can proceed. It is recognised, however, that in many situations closure is not permanent.[1]

The particular aim of this thesis is to illuminate the current path of U.S. and Australian bycatch policy development; and to suggest those factors of particular influence and those which have been overlooked in earlier commentaries on marine resource policy development. The intent of this exercise is to facilitate improved

1 The reopening of an issue several times can make finding permanent closure a very difficult process. In one instance, trade-offs are that if an agency tries to solve a problem in a single move, then there may be a revolt due to the perception that too much is being asked: on the other hand, the repetitious raising of an issue may also lead to its rejection due to a building resentment of being constantly bombarded with new and cumulative requests for altered fishing practices. In this last situation the perception may also arise that those leading the process are incompetent due to their failure to coordinate issues and to effectively deal with the problem at hand. Alternatively reopening of an issue may occur due to other external factors such as a shift in another nation's or in regional policy.

understanding of the process of policy formation with respect to bycatch, so as to instruct the Australian situation as well as other future cases. The belief is that improved comprehension of the issues involved in bycatch mitigation, and the trade-offs that are required by the various participants, will allow for better informed decisions. Below, the behaviour of the various factors of influence is examined during each of the three policy cycle phases of agenda raising, policy formation and implementation. There are, however, two factors that do not fit neatly into these stages, and which have a persuasive influence throughout the policy process — discussed below, these are the impact of predetermined factors and the influence of individuals. In concluding this thesis, some observations are made as to current trend and the likely future of bycatch management and policy development in both Australia and more generally.

## Impact of Predetermined Factors

It is important, in discussing the preceding bycatch case-studies, not to dismiss the influence of their inherent differences on the development of policy outcomes. Though not determinative of the absolute outcome, the factors below are suasive. By way of example, the degree of endangerment of the species is significant, not just as a matter of science, but also in relation to the legislative tools that can be used, and the policy position pursued. Notwithstanding this difference, the lack of threat posed to populations and species of dolphins in purse-seiners *vis a vis* sea turtles in trawling operations was never really considered in the U.S.'s decision to impose embargo provisions on foreign fleets.

The economic value and wealth of the fishery may also have a significant impact. This is both in terms of the income generated (the greater the income the more hesitant a government is to close a fishery) and the wealth of the fishery (the more financially secure the fishery the greater their capacity to absorb additional costs). For example, compare the Gulf of Maine gillnet fishery and the north Pacific longline fleet: public and policy awareness of the issue for gillnetters, came at a time when, due to the collapse of the groundfishery, they were already facing potentially severe restrictions on their operations. This situation bears a marked difference to that of the longline sea bird bycatch issue off the west coast, where the fleet has been better equipped to combat bycatch problems, and hence less hostile to change.

Additional considerations come into play when more than one nation is investigated. Differences in state-federal relations, the litigious nature of societies, and the structure of a Presidential versus a Parliamentary system of governance, all impact upon the process of policy-making in Australia and the U.S..

## The Influence of Individuals

A significant influence on policy formation, to which inadequate attention has been paid, is that of the role and impact of individuals. Individual actors may alter the path of a particular policy area equally at any stage in the policy cycle. In this thesis, several individuals — from a range of backgrounds — have featured. These include scientists like Nigel Brothers; and bureaucrats or managers such as Martin Hall, who has influenced not only domestic but also regional policy developments in the ETP. Brothers' collection and presentation of information outside of the realm of academia and science, and his continued communication of this science in policy forums, provided the impetus for the commitment made by Australia to albatross-longline bycatch mitigation. In a similar regard, comparison has been drawn in the U.S. between the creation of harbor porpoise and bottlenose dolphin TRPs: the progression of the former and lethargy of the latter being, to an extent, attributed to the respective presence and absence of a committed and charismatic scientist willing to present him or herself and their science to policy makers. Ed Melvin of the University of Washington who played a significant part in finding a workable reduction to the bycatch of seabirds in gillnets — as with those individuals discussed above — demonstrated a practical approach to solving bycatch problems, and an ability to generate respect from the fishers he worked with. A commonality shown amongst these unique individuals, is their willingness to think about solutions at the time the problem emerged, rather than at a later stage when the problem had become entrenched.

Both taking a lead role in the creation of bycatch policy, and an active role in impeding the development thereof, have been industry representatives. Evidencing leadership in policy development is Thorn Smith, lauded for his vital role in sea bird bycatch mitigation in the northwest longline fishery. Filling the latter scenario of impeding policy creation, was Tee John Mialjevich who exerted a significant retarding influence over the progress of consensus building during the TED dispute of the 1980s in the Gulf of Mexico. These individuals, as leaders of industry groups, are in positions of considerable power. They command the respect of the fishing community they represent, and hold an understanding of the policy process in which they are working. This, perhaps enviable, position can lend industry representatives significant influence over the policy outcome, or at the least over the path the process takes.

Commonly, for individuals to have an impact on policy development they require a niche of power or influence: be this in the form of mass public or concentrated industry support; knowledge of, or willingness to use, the law or scientific data and understanding; or an ability to act as a bridge or moderator between competing interests or hostile parties. Without a particular and often unique strength, regardless

of how well intentioned or charismatic an individual may be, their influence upon policy development will be limited. Conversely, an absence of ability or desire to communicate with at least one group of actors, no matter what information or understanding is held by an individual, will render their influence unremarkable.

## Agenda Raising

In practice, agenda raising in the domestic arena has primarily relied either upon the presentation of empirical evidence, that is science, or through an appeal to the public to take action to persuade politicians to rectify a perceived wrongdoing. Under Cobb, Ross and Ross's scheme of agenda raising these would be classified as insider and outsider models respectively.[2]

The reasons for NGO attention to an issue have not been well explored however. Explanations for attention to particular issues — including bycatch — have been suggested by some to be little more than manipulative revenue and power raising campaigns. The example most commonly offered is that of the turtle-safe shrimp label. Indeed, two of the characteristics of NGOs that enable them to garner power, are their financial capabilities, and their public support base.[3] Thus it is possible that NGOs' desire to command a considerable budget and public profile, so as to acquire the bureaucratic and political attention that this generates, has led some organisations towards a policy position or action that they would not — on merit — have chosen to take.

Conversely, the realisation by the public of an issue, in particular involving large fauna, can generate pressure for a particular NGO to pursue a certain issue. Member demands may lead to consideration of an issue that, due either to the unthreatened status of the species or lack of viable solutions, would have otherwise been a low priority for the organisation.

With the maturation of the way in which bycatch is, at large, regarded, a third factor has emerged as a significant influence on agenda raising — that is, the bureaucracy. Bycatch has become increasingly viewed as unacceptable, not because of any substantial alteration in public or private philosophies since the issue's emergence in the 1970s, but rather due to greater recognition of the finite nature of marine resources

2 Cobb, R., Ross, J. and Ross, M., "Agenda Building as a Comparative Political Process" (1976) 70 *American Political Science Review* 127. See Chapter Two at footnote 183 and accompanying text for discussion.

3 Princen, T., "NGOs: Creating a Niche in Environmental Diplomacy", in Princen, T. and Finger, M. (ed), *Environmental NGOs in World Politics: Linking the Local and the Global* (Routledge, London, 1994) pp.29-17.

and the need for the conservation of these. Seen as inherently wasteful, bycatch's condemnation is thus explained. Prior to the evolution of this public attitude, little evidence of the use of a mobilisation model of agenda raising had occurred in the bycatch policy arena.[4] It is now recognised however that

> it is preferable to develop bycatch policies and action plans before there is a call for their application – and especially before the respective positions on the issue becomes polarized or emotional.[5]

Moreover, in both the U.S. and in Australia there has been a realisation of the permanence of the issue of bycatch. Industry resistance to bycatch on the agenda, though not gone entirely, has been reduced. This move has been assisted by international trends towards the acceptance of bycatch as a key concern, and an issue area requiring attention, as can be seen in several recent developments.[6] This international recognition has in turn assisted domestic moves towards the development of domestic policies by which the problem of incidental take can be uniformly and strategically addressed.

## Policy Formulation

Policy formation commonly requires the accomplishment of two interrelated tasks. The first is the identification of the specific sorts of issues under consideration. In terms of bycatch, a checklist would include characteristics such as:

- primary stakeholders;
- technological aspects of the fishery (such as the spatial and temporal pattern of the bycatch, frequency with which bycatch occurs, the impact of bycatch upon the species population);
- the level of control that participants in the fishery have over bycatch, the degree of predictability;
- legal considerations associated with bycatch issues; and
- socio-economic considerations.[7]

4 To recall a mobilisation model is one wherein issues are placed on the formal agenda by the government and potentially may involve neither a public grievance, nor public involvement in the subsequent policy formation process.

5 Metzner, R., "Bycatch: Do We Care?", paper presented at *ABARE Outlook '99* (ABARE, Canberra, 1999) in press. Dr Rebecca Metzner works for the Fisheries Department of the Government of Western Australia, Perth, Australia.

6 Raising of an international agenda tends to occur by nations that have already addressed an issue on a domestic level and are looking to extend their policy beyond their jurisdiction. Examples include the expansion of U.S. tuna-dolphin and turtle-shrimp policies, and Australia's international promotion of a driftnetting ban. Recent international developments include the UK bycatch resolution put to the November meeting of the Conference of Parties to the Bonn Convention, and ongoing FAO attention to bycatch reduction.

7 Hall, M., "On Bycatch" (1996) 6 *Reviews in Fish Biology and Fisheries* 319.

The second part of the policy formation process is the selection of tactics amenable to problem mitigation and broader management needs. Options available for fisheries bycatch include: the threat or use of law both domestically and internationally; education and training schemes; trade, labeling and consumer demand mechanisms; and voluntary gear modification and mitigation tactics such as area closures. A combination of aspects of several of these tactics is often needed to successfully form a policy.

The policy formation phase of the cycle is dominated by members of the policy sub-system, who bring some minimum level of knowledge to discussions. In regard to natural resources, science and domestic actors have tended to be the key factors in this stage of the policy cycle.

Debate over the empirical nature of science and its degree of politicisation have led to polarised views over its correct role and influence in the policy forming process. Increasingly, science seems to be evolving into — rather than provider of empirical truths — a bridging mechanism between a purely evidentiary role and a judgement capacity. This has stemmed in part from a move towards interdisciplinary training, thus providing participants with an understanding of both science and policy process, as well as through the emergence and increased reliance on techniques such as projection modeling and risk weighted management. No longer are these two responsibilities of data generation and decision making strictly separate. There are dangers associated with this role with its obvious judgmental elements, including that a reduced level of confidence will be placed upon science by decision makers, or that scientists will use these new tools to enter further than the data supports into the realm of policy choice. Indeed it remains a truism that the job of a scientist is not to make moral decisions: the position of authority afforded scientists ought to be used to convey only those messages that are supported by the science.

Notwithstanding advances in scientific knowledge over the decades, science still is (in general) unable to provide definitive answers. Instead, what has emerged is a series of arguments as to what to do in the face of uncertainty, the generally accepted position being that a precautionary approach ought to be taken. This is, in part, a recognition that, although scientific information today is so much greater than when decisions were

first being abdicated on the basis of insufficient knowledge,[8] uncertainty is an intrinsic part of any ecosystem.[9]

Indeed, the increase in data gathering and analysis capabilities have led science to change over time from a species focus to more complex levels of stock differentiation at the meso, and ecosystems interactions at the macro scale. As scientific information and understanding increases, policy makers are calling upon more and more detailed explanations upon which to base their decisions. Irrespective of these advances, the available data differs across issue and jurisdiction. Though a heavy reliance on scientific information is a statutory requirement of Australia's endangered species legislation, the data gathering mandate in the U.S. under the MMPA, has not been replicated in Australia. Even in the U.S. where bycatch data has markedly increased, it is still rarely sufficient to provide any level of 'certainty'. As stated, it is generally accepted that in situations where data is inconclusive a precautionary approach is required. Though the tenor of the precautionary principle is very clear, what is not so obvious is when to make a decision — how much is sufficient information, and how much is insufficient?

The second identified key factor in the policy formation phase of the cycle, was that of domestic actors. Much extant literature refers to the domestic contingent of actors without adequate attention to each facet thereof. Of particular impact, and routinely under-recognised in its influence on policy formation, is that of industry bodies. Indeed, the influence of foreign organisations upon bycatch policy development is often equal in magnitude to the well documented impact of environmental NGOs. Industry bodies are not, however, always consistent in the policy position they take, operating at different times as both a promoting and retarding influence. The inadequacy of attention these groups have received can be, at least in part, explained by the intentional low profile they assume due to their preconception that most any publicity will be bad publicity.

Industry groups tend not to have good media connections, be scornful of and not want to deal with publicity, and tend to be scattered into individual or regional efforts. They are often fiercely independant people, who live in a sub-culture that does not desire publicity. As one industry representative remarked:

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8 In the 1970s, when the issue of bycatch first emerged, the claim of a lack of data was a very real issue. Estimates of the number of dolphins taken in the ETP in an annual fishing year varied by orders of magnitude. No real information on the population sizes, or the needs of the species in regard to replenishment of deplete stock, were known.

9 A reflection of the greater amount of information that is available today are recent legislative trends that direct the use of science based decision making such as is evidenced in the Australian ESPA. See Chapter One sub section 1.6 for discussion.

> there is a lot of stuff that goes on that you don't hear about, because people either don't want to tell the story because they think it's a waste of time to be bragging, or they are afraid that someone is going to come after them because they are admitting that they killed a dolphin once, or they just don't have the capability and organisation and publicity machine.[10]

Due to the direct relations the fishing industry has with its lead agency, and the national revenue they raise and regional employment they provide, industry exerts considerable influence over both the administrative and the elected branches of government. This means that they do not need the same level profile as NGOs, who rely in part upon public opinion for their influence. Industry also tends to not to record events, they communicate at fishing shows and through word of mouth. In this regard, this thesis makes a contribution through the documentation of significant actions by the fishing industry, both voluntary and coerced, in relation to marine wildlife bycatch.

A variety of the changes here discussed have led to the emergence of a more consultative framework for fisheries management policy in both the U.S. and Australia. In particular this has emerged through TRTs in the U.S and, to a lesser extent, through fisheries management advisory committees and more recently bycatch working groups in Australia. The holding of small closed meetings, comprising all stakeholders, has been lauded as providing a forum where a greater exchange of information and ideas, than occurs in a public meeting, is possible.

Such governance arrangements serve to create a new role for NGOs and industry alike. Increasingly, these previously opposed groups, still with different primary aims, are liaising and compromising on outcome objectives. The strengths of the TRT model include that they are consensus rather than majority rule and thus encourage a bipartisan arrangement to be reached. Another lauded, though somewhat contentious, characteristic is the absence of a government official on the committee, agency employees being restricted to an advisory role.[11] In terms of participation in bycatch management, the U.S. has much more experience than Australia, though this situation is altering through, for example, the KTP process. Representative organisations, and in particular environmental NGOs, are no longer restricted to the agenda raising and policy implementation phases of the policy cycle, but are now increasingly involved in problem solving and policy formation aspects.

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10 Per. comm. Rod Moore, Executive Director West Coast Seafood Processors Association, Portland (OR), 31 March 1999.

11 Per. comm. Laurie Allen, Fishery Biologist, Protected Species Program, National Marine Fisheries Service (NMFS), Northeast Region, Gloucester (MA), 5 April 1999.

> Ideally, policy and the design of management rules and regulations occurs via an interactive and cooperative process involving an array of stakeholders. Although cooperative processes do not necessarily generate rapid results, the results are likely to be more durable and subject to fewer ongoing challenges than a top-down management approach where new rules are applied without considerable collaboration.[12]

## Policy Implementation

Implementation, in particular of international arrangements, but also of domestic policies, is the most poorly examined of the three phases of the policy cycle. There is no denying that the difficulties associated with the responsibility of imposing the social arrangements necessary to either avoid a tragedy situation, or to implement the public will to protect marine wildlife, make this an onerous task.

Co-option has been expanding not only in the policy formation arena, making a role for previously excluded NGOs, but is also beginning to emerge in the implementation phase of the cycle. This can be seen in international forums, in particular, where environmental NGOs are striving to gain legitimate recognition as the courier of the public conscience. Environmentalists have for years sought, and variously received, observer status and inclusion in official negotiating parties. More recently, however some have also begun to purse a role at the implementation phase of the multilateral policy process. The most stark example is the IATTC model. This arrangements is still formative, and many other forums still prohibit NGOs as even observers. It appears, though, that a turn towards increased acceptance of NGOs has begun. The rationale herein, to be sure, would be little different from that well represented in the literature with regard to co-option in domestic structures.[13]

Although, as has long been realised by commentators, the U.S. system provides for greater judicial participation in the enforcement of laws than does it in Australia, the actual impacts that this has had upon policy and its implementation has been less thoroughly considered. When a law is not clear it is determined in a system of court cases. Though an active courts system such as that demonstrated in the U.S. can assist in the implementation in particular of policies, the shaping of policy by litigation is often slow and most certainly ad hoc. It is not a preferred way to make policy. It places a heavy burden on the Act because those parties that are unsuccessful in the courts are then left with only the recourse of changing the law through the legislature.

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12 Metzner (1999) *op. cit.* n5.

13 For a discussion on co-option See Chapter Two, footnote 105 and accompanying text.

Extant literature also recognises, however, that bureaucracies hostile to politically driven changes may attempt to ignore or reinterpret the policy in their preferred manner. And that in this situation, interest groups have a valid role as enforcer of the legislative policy. In Australia, the difficulties associated with gaining standing in the courts, and prohibitive legal costs, have resulted in a substantially smaller role for the courts than occurs in the U.S.. Though legal opinions are still sought and used in policy decisions in Australia, this lack of access to the judicial system has at times allowed a agencies to exert an extremely broad range of controls.

Commonly overlooked in the literature is the influence of science on policy implementation: as in policy formation, the absence of adequate or defensible science has been used for decades as a reason for avoiding action even once the issue is on the agenda and a policy has been formed. Denial of the accuracy of data, or claims of bias in the methodology, is not an infrequently used tactic in attempts to stall the implementation of a policy. Moreover, and infrequently mentioned in policy literature, this in extreme cases extends beyond attempts to discredit data, to the vilification of scientists themselves. Examples can be seen in both the TED dispute in the U.S. and in dugong bycatch policy developments off the Queensland coast in Australia. Regardless of the accuracy of claims of bias in data, this is an issue which should have been resolved at the policy formation stage of the process. When raised during implementation such claims may result in both questioning of the validity of these protestations due to their late emergence, or the reopening of an issue believed to have been near to closure.

Perhaps the most under-recognised impediment to policy, and particularly legislative implementation, is the lack of availability and structure for funding arrangements. In neither the U.S. nor Australia, is there any overall policy on who should pay for various aspects of governmental policy once developed.

> Appropriations Committees' control over allocational decisions may give them almost as much influence over the implementation of federal programs as the legislative committees that authorized them. However the power of the purse while substantial does not extend to the outright reversal of agency policy.[14]

In both Australia and the U.S., the cost of observer programs has been a recent particular point of contention. For example, although many Australian fisheries operate on a cost recovery basis, this applies to only some aspects of the fishery, and

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14 Zellmer, S., "Sacrificing Legislative Integrity at the Altar of Appropriations Riders: A Constitutional Crisis" (1997) 2 *Harvard Environmental Law Review* 457. See also LeBoeuf, J., "Limitations on the Use of Appropriations Riders by Congress to Effectuate Policy Changes" (1992) 19 *Hastings Constitutional Law Quarterly* 457.

many fall in a hazy area of uncertainty. And yet, notwithstanding these difficulties and the delay and impediment they have caused to policy implementation, still no policy to address these questions has been created, making this a primary example of where institutions would benefit by learning from parallel and previous experiences.

Although not having provided a panacea to international problems of resource management and conservation, trade is still being widely touted as a policy solution to nations reticent to implement international accords, and by the U.S. as a means of policy extension. To be sure, the specifics of some of these arrangements have matured. Though trade measures have been in use since the first consideration of the issue of marine wildlife bycatch, they have altered significantly. The first generation of environmental trade measures were simple prohibitions or product standards. The second generation required a judgement about foreign practice or policies. The third generation are more market driven incentives rather than direct regulations, for example the levy of tax where the production of certain by-products occurs.[15]

An emergent trade related policy is that of the use of market as implementer through the instigation of eco-labeling or certification schemes. This is a seemingly under-utilised policy option in Australia. As an alternative solution, outside of the legislative process, this has the potential to offer a viable, alternative method by which to facilitate the reduction of marine wildlife bycatch. The greatest merit of the eco-labeling and consumer choice is its ability to alter the way in which bycatch is considered: that is, not as an impact to be managed, but rather as an environmental cost of fishing that needs to be ameliorated by the fishing industry. Internalising bycatch and accepting mitigation as a basic part of fishing, and passing the cost along to consumers, is a step towards acknowledging that the cost of minimising environmentally deleterious actions should be borne by those that benefit from the activity.

## The Future of Bycatch Policy

Perhaps because of the lack of sufficient science to explain the intricate nature of the problem, but also due to the need to accommodate both conservation and economic imperatives, the key solutions pursued in bycatch mitigation to date have been technological ones. Although this aspect is unlikely to alter, bycatch is nonetheless an evolving issue.

In addition to those cases discussed in detail in Chapters One and Three through Five, there are a number of new bycatch issues likely to require detailed consideration in

15 Charmovitz, S., "Environmentalism Confronts GATT Rules: Recent Developments and New Opportunities" (1993) 27 *Journal of World Trade* 35.

both Australia and the U.S.. These include bycatch in illegal, unregulated and unobserved (IUU) fisheries: such as the Italian driftnet fishery that is now being targeted by U.S. unilateral embargo action, and pirate longlining in the Southern Ocean. The ability of existing regimes, such as CCAMLR, to adapt so as to be able to redress these problems will be tested. In this regard, one method that is increasingly gaining support is that of multilateral embargo action by member nations of particular fisheries regimes, on recalcitrant non-signatories (and with the potential to expand such arrangements to non-compliant parties).[16] The next stage for many issues that have been, by and large, tackled as problems of domestic concern, will be the search for solutions to these problems beyond even regional settings, and into the international arena.

Other issues of emerging importance are that of competition between fisheries and marine wildlife species, such as is witnessed in terms of seals and sea lions in both the U.S. and Australian waters. Related to this, is the issue of the increasing health of some species or populations that have recovered and even flourished under extant protective mechanisms. Increasingly it is becoming a question of ethics that legislators are having to consider, rather than that of biodiversity or species preservation. Indeed it was commented that

> there is a certain aspect of reducing the bycatch of charismatic species that is a little bit of science and a whole lot of love.[17]

Increasing scenarios where, rather than a choice between fish productivity and marine mammal protection, a selection between ecosystem conservation and preservationist values will be required.[18] This alteration of previously resource management issues, to more species preservation issues will challenge policy makers and interest groups alike, with polarised views developing between previous allies. Increasingly, also, less charismatic species that have not shared the same level of public attention as marine wildlife, will be biologically threatened and requiring protection, at times, at the expense of profitable industries.

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16 Anon, *Stock Management Measures Taken by the International Commission for the Conservation of Atlantic Tunas (ICCAT) in Relation to Trade Measures* (note by the Secretariat of the ICCAT, to World Trade Organisation, Committee on Trade and Environment, 16 July 1998 WT/CTE/W/87); Resolution on an Action Plan to Ensure the Effectiveness of the Conservation Program for Atlantic Bluefin Tuna (adopted Ninth Special Meeting (Madrid, November-December 1994)); and Resolution Regarding Belize and Honduras Pursuant to the 1994 Bluefin Tuna Action Plan Resolution (adopted Tenth Special Meeting (San Sabastian, November 1996)).

17 Per. comm. Victoria Cornish, Fishery Biologist, National Marine Fisheries Service (NMFS), Office of Protected Resources, Washington DC, 19 April 1999.

18 The operation of environmental based NGOs is on occasion hampered by the division between conservationists and preservationist. The open airing of these discordant views in policy discussions can potentially limit the effectiveness of those striving to safeguard marine mammal populations from unnecessary harm.

We are now moving into a new era of technology. Possible policy solutions are emerging that have not previously been available due, by and large, to the difficulties that had existed in the implementation of such policies. The emergence of technologies such as vessel monitoring systems are allowing more selective restrictions, better monitoring and harsher penalties for contravention. Indeed, notwithstanding the impediments, controversies and mismanagement of the past, the future of bycatch policy as it matures to be considered an issue area of concern, looks hopeful.

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